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(5075-00001)

Memorandum

To: Rachel Loftin, EPA Superfund Project Officer for California

Subject: Completed Work

Date: May 30, 1998

Revised: November 1, 1999

Attached is the following completed document:

PEA/SI X Other _____

Site Name: D & M Steel

EPA ID: CAO001368182

City, County: Pacoima, Los Angeles

For EPA Use Only

Latitude: 34°16'15.9"

Longitude: 118°25'30.2"

STATE ID#: 19340769 (CALSTATES)

ALIAS: Kleinert Industries

EPA Further Action Determination: PA 1 = H SIL = H (Entered in CERCLIS)

Lead Agency: S

Sign Off Date: 4-19-00

Initials of Work Assignment Manager: PNL/Ste

Document Screening Coordinator: Ann Fisher

Chief, Site Evaluation and Grants Section: Mat for B. Cunn

PEA/SI Report

Preliminary Endangerment Assessment/Site Inspection

Site: D & M Steel
11035 Sutter Avenue
Pacoima, CA. 91333

Site EPA ID Number: CAO 001368182

Submitted to: Rachel Loftin
EPA Superfund Project Officer for
California

Date: May 30, 1998

Revised Date: November 1, 1999

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Cal EPA/DTSC
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EXECUTIVE SUMMARY

A Preliminary Endangerment Assessment/Site Inspection (PEA/SI) was conducted and the PEA/SI report was prepared by the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) for the United States Environmental Protection Agency (EPA). The PEA/SI was performed to determine if a release of hazardous substances exists at the site. A source of contamination was sought for a recently discovered regional groundwater contamination plume and an assessment of the potential threat to public health and/or the environment was made. The PEA/SI was conducted and the report prepared following the *Preliminary Endangerment Assessment Guidance Manual*, published in January 1994, and EPA guidance on conducting an SI.

The D&M Steel site is privately owned and operated by Mr. David Dagmi and Mr. Michael Atia at 11035 Sutter Avenue, Pacoima, California, 91333. The site is bounded on the east by Sutter and Louvre Avenues, the north and west by a railroad line and the south by a lumber yard.

From the 1950's until about 1980, the Site was occupied by Paragon Precision Products to manufacture steel and aluminum parts for turbomachinery. This company would dispose of chemicals and waste oil in a brick-lined vault in the southwest portion of the property. In 1981, Kleinert Industries bought the property and operated a machine shop on it. In 1990, Kleinert sold to D&M Steel. D&M Steel manufactures welded steel products for construction and specialty steel products. The main manufacturing activities are conducted inside the operations building. Current operations consist of welding steel products for construction.

In 1989, an environmental audit discovered a brick-lined hazardous materials disposal area ('Vault') whose soil was impacted by hydrocarbons and volatile organic compounds (VOCs). In 1990, three on-site groundwater monitoring wells were installed and groundwater sample analysis detected VOCs above action levels. From May 1990 until January 1991, a vapor extraction system was operated to recover the vapors in the area surrounding the disposal vault. An initial verification boring detected a decrease in hydrocarbons to parts per billion and VOCs to below reporting limits. Additional soil borings detected no VOCs in the soil but were determined to be insufficient for characterizing the site.

Soil and groundwater sampling was conducted in June and July 1997 for this PEA/SI. Groundwater sampling results were used to evaluate the risks posed to groundwater receptors. A conceptual site model was developed during the PEA/SI, and the exposure pathway of concern was determined to be exposure to contaminated groundwater by downgradient well users.

The total cancer risk and hazard associated with the site was calculated in accordance with the PEA guidance using health-protective assumptions for soil and groundwater exposure pathways. Screening evaluation of the volatile organic compounds (VOCs) in the groundwater pose cumulative risks greater than 1.0×10^{-6} and/or have a hazard index greater than 1.0. Additionally, the groundwater VOCs exceed the State of California primary drinking water Maximum Contaminant Level (MCL) standards. Risks associated with ecological receptors were determined

to be not significant.

Based on risk and found contamination it is recommended that further action be taken at the site. This action, at a minimum, should include annual monitoring of the onsite monitoring wells and further characterization of the potential on-site sources. Additionally, installation of a downgradient well and further hydrogeologic evaluation should take place since Los Angeles water supply wells are in danger of being further impacted.

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1.0

INTRODUCTION

The U.S. Environmental Protection Agency (EPA), Region IX, under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), has tasked California EPA, Department of Toxic Substances Control (DTSC) to conduct a Preliminary Endangerment Assessment/Site Inspection (PEA/SI) of the D & M Steel (Site) site in Pacoima, Los Angeles County, California. D & M Steel will be referred to hereafter as the "Site". The PEA/SI is to be conducted in accordance with protocols specified in the *Preliminary Endangerment Assessment Guidance Manual, State of California Environmental Protection Agency, Department of Toxic Substances Control, January 1994* guidance document and the EPA guidance for conducting SIs. Specific objectives of the PEA include (1):

- Determining if a release of hazardous wastes/substances exists at the site and delineating the general extent of the contamination.
- Estimating the potential threat to public health and/or the environment posed by the site and providing an indicator of relative risk.
- Determining if an expedited response action is required to reduce an existing or potential threat to public health or the environment.
- Completing preliminary project scoping activities to determine data gaps and identify possible remedial action strategies to form the basis for development of a site strategy.
- Assessing and providing for the informational needs of the community.

The primary purpose of this PEA/SI is to determine whether the site poses a threat to human health and the environment. Sample analysis will be used to confirm adequate cleanup from past remedial activities. If contamination still exists then the environmental samples will be used to locate a source of contamination in the site soil to determine attribution by the Site to a recently discovered regional groundwater contamination plume.

The assessment began with a file search and review for the Site focusing on the disposal practices, waste streams generated, storage tanks, spills, and previous remediation at the Site. The search and review was performed in December 1996 at several public agencies including: Los Angeles City Department of Building and Safety; Los Angeles County Assessor's Office; Department of Public Works and Fire Health Haz-Mat Department; California Regional Water Quality Control Board; Los Angeles (RWQCB); and DTSC. No Sanborn maps were available for the Pacoima area. Upon completion of the document review, DTSC identified three areas of concern located on the site.

DTSC conducted a site reconnaissance visit in September 1996. No site reconnaissance report was written for this site, as a Preliminary Assessment was not conducted. Environmental samples were collected in June and July, 1997 to complete this PEA/SI. This report describes the assessment findings, details the Site's areas and contaminants of concern, provides Human Health/Ecological Screening evaluations and conclusions with recommendations regarding further assessment activities.

This report consists of nine sections: Section 1.0 briefly introduces the Site and the organization of the report; Section 2.0 describes the Site; Section 3.0 discusses Site background; Section 4.0 summarizes the Site's apparent problem; Section 5.0 discusses environmental setting; Section 6.0 summarizes field investigations and sampling activities; Section 7.0 provides potential human risk and environmental targets; Section 8.0 contains community profile; Section 9.0 provides the Emergency Response Considerations; Section 10.0 presents conclusions and recommendations:

2.0 SITE DESCRIPTION

2.1 Site Identification Information

Site Name: The Site is currently identified as D & M Steel. The site previously was known as Kleinert Industries and Paragon Precision Products.

Site Address: The Site is located at 11035 Sutter Avenue, in the city of Pacoima, Los Angeles County, California, 91331.

Contact Persons and Phone Number: Owners Mr. David Dagmi and Mr. Michael Atia, (818)896-2070.

Regulatory Involvement: United States Environmental Protection Agency (EPA)- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) listed on February 16, 1996: (2)

California Environmental Protection Agency (CAL-EPA)- *Department of Toxic Substances Control (DTSC)*: listed site on CALSITES database, May 30, 1996, # 19340769. (3)

Regional Water Quality Control Board, Los Angeles (RWQCB)- The LACDHS transferred lead agency status of the site to the RWQCB in 1991, and a remediation program was operated under the direction of the RWQCB.

According to the RWQCB, on December 7, 1995, the Well Investigation Program sent a letter to Mr. David Dagmi of D&M Steel requiring further subsurface investigation at the site.

Southern California Air Quality Management District (SCAQMD) and the Los Angeles County Department of Public Works (LACDPW)- From April 1990 through February 1991, a vapor extraction well was installed and operated under a SCAQMD permit and approved by the LACDPW.

County of Los Angeles Fire Department, Health Hazardous Materials Division (HHMD)- HHMD had a Paragon Precision Product business license on file but no inspection records for the property at 11035 Sutter Avenue. No files could be found for Phase I or Phase II work conducted under the LACDHS.

Los Angeles County Department of Health Services (LACDHS)- Kleinnert Industries reported the contamination to the LACDHS, who transferred lead agency status of the site to the RWQCB in 1991. LACDHS reviewed activities related to the assessment of the disposal area.

USEPA Identification Number: CAO 001368182

Township, Range, Section, and Meridian: The geographic coordinates of the site are 34° 16' 15.9" N latitude and 118° 25' 30.2" W longitude (Township 2N, Range 15 W, U.S.G.S. San Fernando, 7.5-minute quadrangle). Refer to Figure 1.

Assessor's Parcel Number and Map: The assessor's parcel number (APN) for the site property is 2535-001-013. The assessor map is Figure 2.

Land Use: The site is located in a industrial/commercial/residential corridor of Pacoima. The site contains a 16,000 square feet (sq. ft.), one story concrete building. The northern portion of the building consists of offices and restrooms and the southern portion of the building is an open work area. The site layout map is shown in Figure 3.

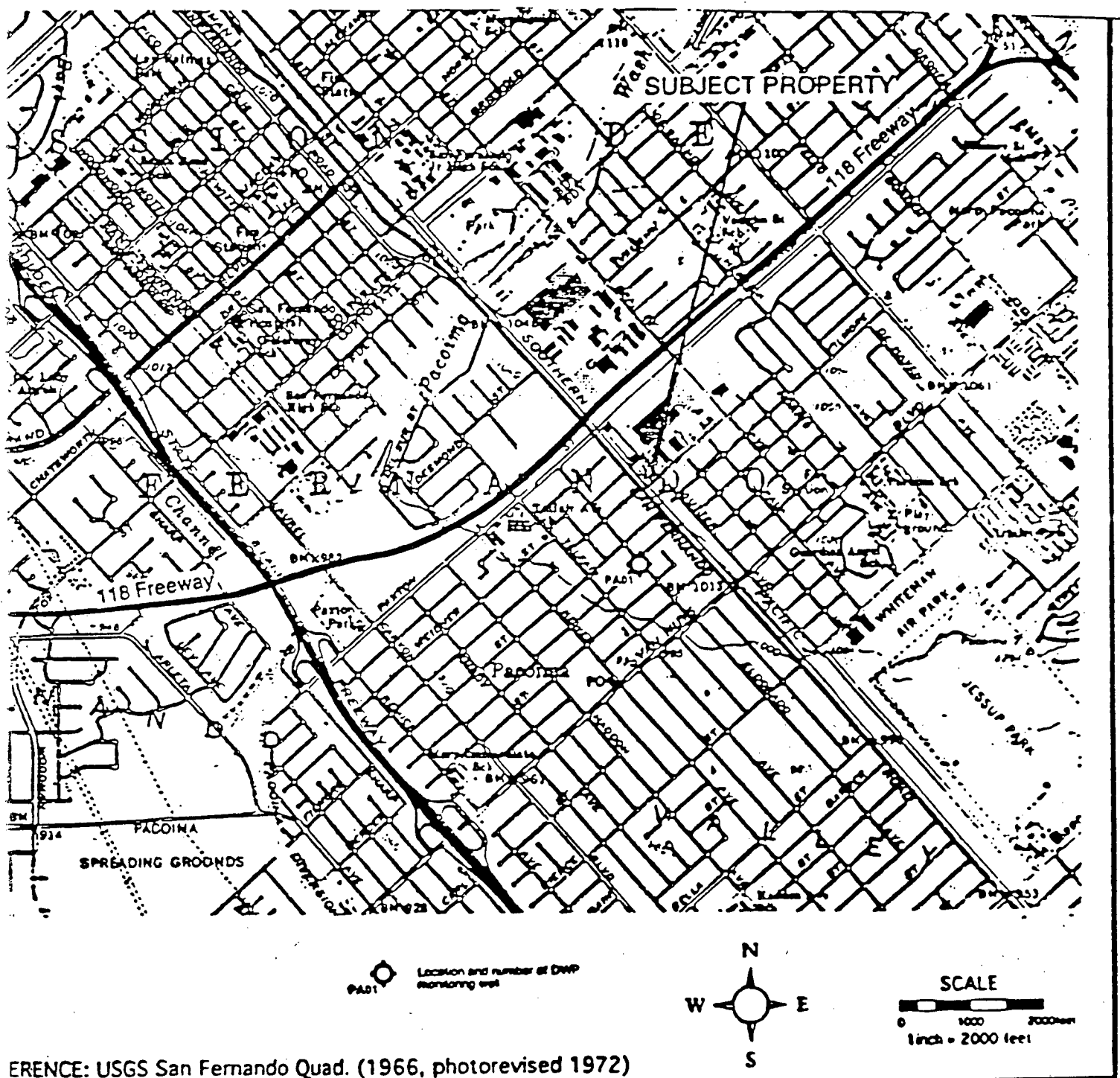
The site is bordered on the north by an asphalt parking area bisected by a rail spur and then a business, Polyester Chemical Company; on the east by Sutter Avenue; on the southeast by Louvre Avenue; on the south by an asphalt drive, storage, and work area; and railroad tracks to the west. The site is secured by a fence with a north and south entry gate located on the Sutter Avenue border. Regional access to the site is provided by the State Highway 180 and Golden State (Interstate 5) freeways. The site area map is Figure 1.

2.2

Site Maps

No Sanborn maps were available for the site. A general map showing the location of the site is provided as Figure 1. Figure 2 is an assessor's parcel map. Detailed maps showing site features are provided in Figure 3. Detailed map showing geologic features and drinking water well locations are provided in Figure 4. (4,5,6)

FIGURE 1 SITE LOCATION



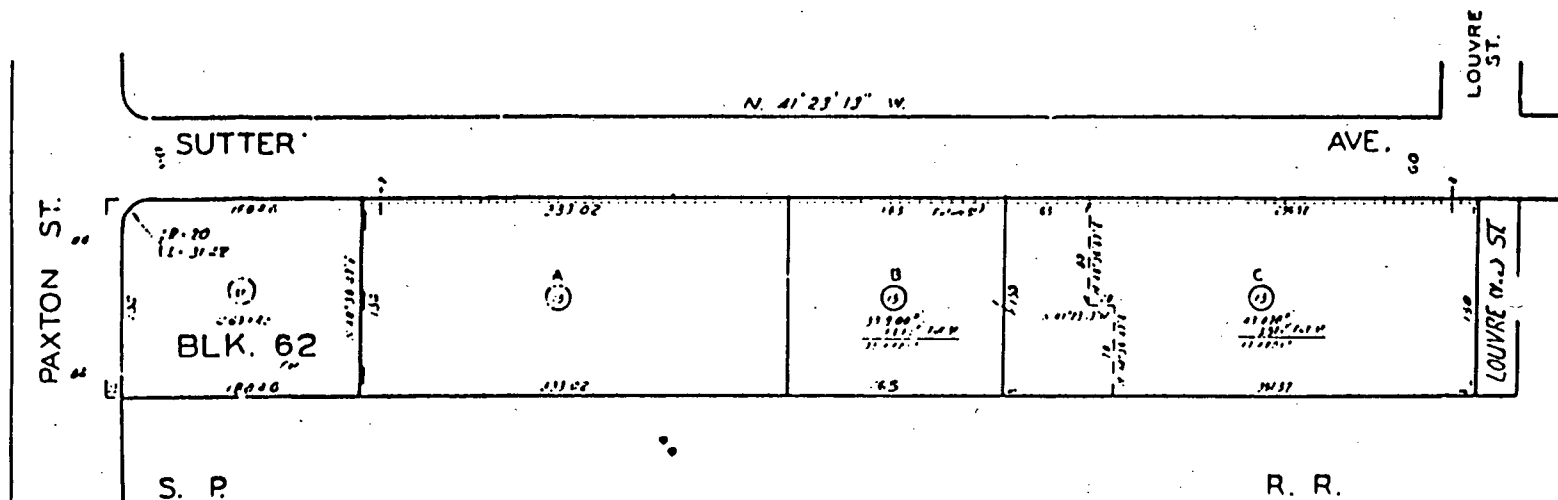
REFERENCE: USGS San Fernando Quad. (1966, photorevised 1972)

VICINITY MAP

11035 SUTTER AVENUE
PACOIMA, CALIFORNIA

2535 1 1995
SCALE 1" = 80'

2-13-68
670407
Revised
11-11-67
1-18-68
671023104
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FOR ANY OTHERS BY
RECORDS AND MAPS DIV
SAN FRANCISCO COUNTY
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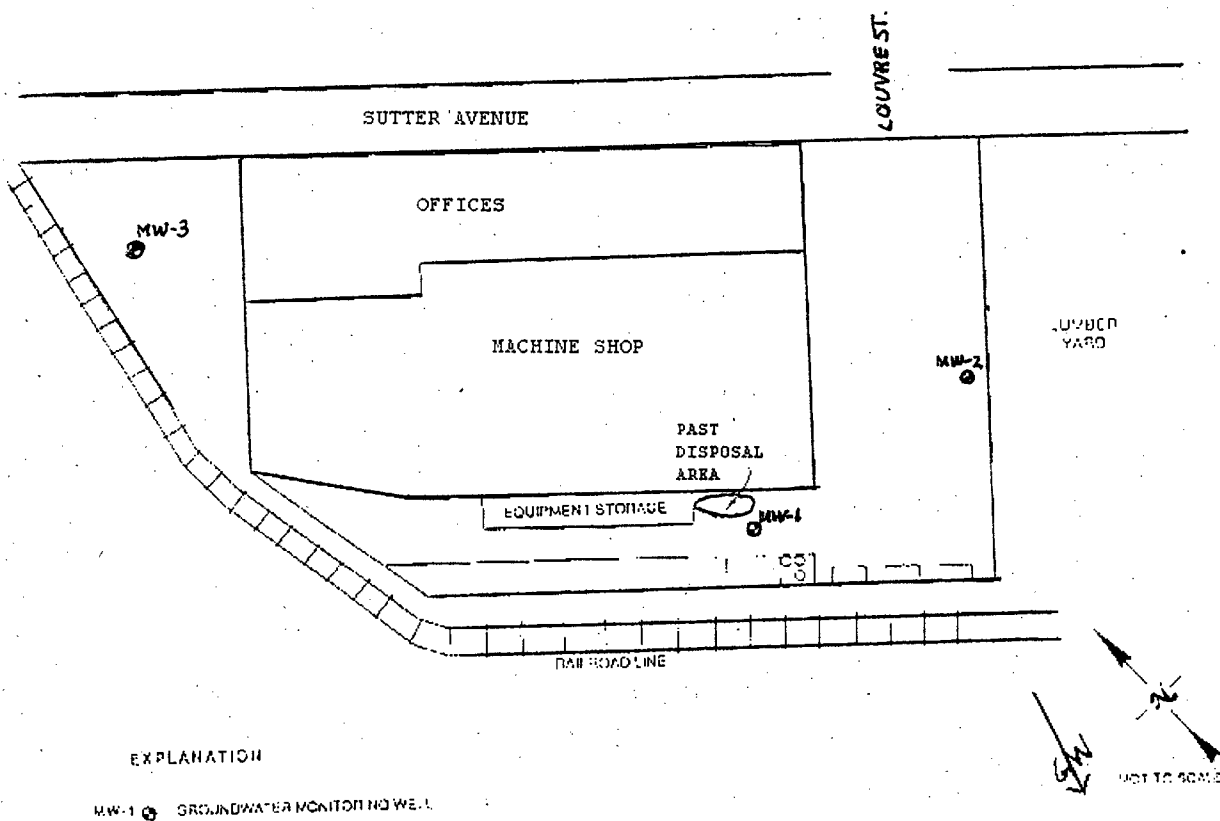


PACOIMA
M.R. 29-79-83
PARCEL MAP
P.M. 41-77

FOR PREV. ASMT. SEE: 2535-1

ASSESSOR'S MAP
COUNTY OF LOS ANGELES, CALIF.

FIGURE 2 ASSESSOR'S MAP



[illegible]

3.0 SITE BACKGROUND

3.1 Site Status and History:

From the 1950's until about 1980, Paragon Precision Products occupied the site and used a brick-lined vault, located on the western side of the southwestern corner of the building, for disposal of waste oil. Paragon fabricated steel and aluminum parts for turbomachinery. Raw materials were cut and formed by lathing machines. Metal cuttings were periodically collected from around each machine and disposed of in drums and trash bins in the southwest corner of the property. Historically, metal fabricators are known to use solvents for cleaning.

In 1981, Kleinert Industries bought the property and developed it to operate a machine shop. Historically, machine shops are known to use solvents for cleaning. Kleinert sold the property to D&M Steel in 1990.

Currently, D&M Steel manufactures welded steel products for construction (building frame, stair cases, etc.) and specialty steel products. The main manufacturing activities are conducted inside the building, but large items are constructed in the southern portion of the site. No known solvents are associated with these activities.

3.2 Hazardous Substance/Waste Management Information:

Sampling events prior to 1989 are unknown. In June/August 1989, the Kleinert Industries had Thorne Environmental perform an environmental audit. The audit discovered a brick-lined vault, or sump, used by the previous metal fabrication company for disposal of chemicals and waste oils from the production operations of the company. The soil surrounding the vault was impacted by hydrocarbons and volatile organic compounds (VOCs). Fourteen soil boring locations were tested for toluene (T), ethylbenzene (E), and xylenes (X) using EPA test method 8020 (the analysis for benzene appears to have been omitted using this method); total petroleum hydrocarbons (TPH) for gasoline, diesel, kerosene, heavy hydrocarbons using EPA test method 8015; and VOCs using EPA test method 8010. Soil boring 13, closest to the brick-lined vault, had samples taken at 5 foot intervals from 5 feet to 65 feet below ground surface (bgs). TPH was detected at all intervals to 60 feet; tetrachloroethene was detected at 15 and 25 feet bgs as high as 9.8 milligrams per kilogram (mg/Kg); and 1,1,1-trichloroethane was detected at 45, 52, and 60 feet bgs as high as 5.3 mg/Kg. The analytical data appear to be of insufficient quality for use at the PEA/SI stage because no quality assurance/quality control or chain of custody were attached to the summary chart. (7)

In 1990, three on-site groundwater monitoring wells (MW) were installed. MW-1 was located at the disposal area and estimated to be 85.5 feet in total depth, MW-2 was located east/southeast of MW-1 and estimated to be 85.5 feet in total depth, and MW-3 was located upgradient and north of MW-1 and MW-2 and estimated to be greater than 85.5 feet in total

depth. (7)

Initial groundwater samples taken from the three monitoring wells on March 22, 1990 and using EPA method 601/602 [all read in micograms per litre(ug/L)] detected 1,1-dichloroethane (MW1- 90, MW2- 98, and MW3- 40), 1,1,1-trichloroethane (MW1- 1,300, MW2- 1,100, and MW3- 66), trichloroethene (MW1- 78, MW2-70, and MW3- 329), and tetrachloroethene (MW1- 1,100, MW2- 920, and MW3- 170). DTSC noted that background sample results revealed contamination levels above Maximum Contaminant Levels (MCLs). The analytical data appear to be of sufficient quality for use at the PEA/SI stage. (7)

May 1990, a groundwater assessment and vapor extraction treatability study was done by Thorne Environmental for the site owners. The remediation consisted of vapor extraction of the volatile compounds from the soils, with recovery into carbon canisters. The vapor extraction system operated from May 1990 through January 1991. (7)

Groundwater samples taken from monitoring wells 1,2, and 3 on January 22, 1991, and using EPA test methods 8010/8020 (all read in ug/L) detected 1,1-dichloroethane (MW1- 45, MW2- 104, and MW3-8), 1,1,1-trichloroethane (MW1- 489, MW2- 1,072, and MW3- 26), trichloroethene (MW1- 42, MW2- 56, and MW3- 215), and tetrachloroethene (MW1- 760, MW2- 741, and MW3- 134). The MCLs for 1,1-dichloroethane, 1,1,1-trichloroethane, trichloroethene, and tetrachloroethene are 6, 200, 5, and 5 ug/L, respectively. The analytical data appear to be of sufficient quality for use at the PEA/SI stage. (7)

In January 1991, after the vapor extraction system (VES) had been operating, Thorne Environmental drilled a verification boring in close proximity to the VES operation. Soil samples were taken at 5 feet intervals to 60 feet and tested for total petroleum hydrocarbons (TPH) using EPA test method 8015M and volatile organics using EPA test method 8010/8020. The TPH and BTEX results were in the parts per billion. Results for the volatile organic compounds were reported as falling below the reporting limits of 10 ug/Kg. The analytical data appear to be of sufficient quality for use at the PEA/SI stage. (7)

In February 1993, CET Environmental Services, Inc. (formerly Thorne Environmental) performed four soil borings to 60 feet bgs at 5 foot intervals. These soil borings were to provide additional data on the lateral and vertical extent of remaining hydrocarbons and volatile organic compounds within the VES operation area. No VOCs were detected in the soils. The analytical data appear to be incomplete as of January 1998 because some sample results, QA/QC, and chains of custody for the samples results are not included in the sample analysis report. (8)

4.0 POTENTIAL PROBLEMS The potential problems at the site are:

- The D&M property has a history of disposing chemicals and

waste oils in a brick-lined vault located in the south/southwestern portion of the property. Verification samples of the vault area, after remediation, showed a decrease in soil and groundwater contamination of the immediate area. However, the final sample analysis documentation was incomplete and the sample borings were inadequate to determine if the Site's remediation was sufficient. Additionally, soil concentrations in the vicinity of MW2 and MW3 were undefined.

- Soil and groundwater samples were collected to document the presence of hazardous substances at the Site. On-site monitoring wells sampling results show VOCs above MCLs are still present in the groundwater. However, two separate sampling events, utilizing four different collection methods, were undertaken to collect good soil samples. Both events met with difficulty and refusal in Area 1 at a depth of 6 inches and Area 2 at a maximum sample depth of 8 feet. Consequently, few soil sample results were collected to assess the site for risk and hazard.
- Tetrachloroethylene (PCE) and its associated breakdown products have been found in a Los Angeles Department of Water and Power (LADWP) monitoring well, located one-half mile downgradient of the Site. The monitoring well sample was drawn from the aquifer that serves the Tujunga and Rinaldi-Toluca well fields. The Tujunga well field is located 2-3 miles from the site. The Rinaldi-Toluca well fields are located 3-4 miles away. LADWP draws 15% of its total service water from these wells. LADWP services 3.7 million people. These wells are at risk from the above mentioned contamination. Currently one well in the Toluca well field has been closed from production due to PCE contamination.
- Unconfined groundwater first encountered beneath the site is approximately 65 feet below ground surface (bgs) with underground lithology consisting of porous materials of gravel and sand. The surrounding area is so porous that its historical and current use is as a groundwater recharge area.

5.0 ENVIRONMENTAL SETTING Factors related to the soil, water, and air pathways are described in the following sections.

5.1 Factors Related to Soil Pathways:

Topography, Slope, and Soil Group: The Site is situated at the base of the San Gabriel Mountains, south of the Sylmar Basin and northeast of the San Fernando Basin between the Big Tujunga Wash and the Pacoima Wash. Sediments discharged from canyons in the San Gabriel Mountains resulted in the deposition of igneous and metamorphic rock fragments, coarse sands, gravels, and cobbles in the region.

Subsurface alluvial sedimentary formations exhibit consistency with the regional lithology described above. The Site elevation is level at 1031 feet above mean sea level (MSL) at the northern side of the parcel and 1028.75 feet above MSL at the southern side of the parcel with no major slope in surface grading. (9)

Assessability: Direct human contact with any contaminated soil would be prevented because the site is entirely fenced and secured to prevent entry and paved. In the case of future site development, human exposure to hazardous substances in the shallow soil via the soil pathway may represent a potential human exposure pathway. The Site's soil sampling is inadequate to determine whether hazardous substances exist at concentrations high enough to impact breathing zones when the soil is exposed to the atmosphere.

Sensitive populations: There are residential populations located within 200 feet east of the site. There are no day care centers, schools, nursing homes, or hospitals within 200 feet of the site.

5.2 Factors Related to Ground and Surface Water Pathways:

Regional Hydrogeological Setting: The Site is located in the northeast portion of the San Fernando Groundwater Basin (SFB) and south of the Sylmar Basin, between the Big Tujunga Wash and the Pacoima Wash. Sediments discharged from canyons in the San Gabriel Mountains resulted in the deposition of alluvial igneous and metamorphic rock fragments, coarse sands, gravels, and cobbles. These sediments are characterized by high soil permeability and groundwater movement or transmissivity.

This area is a natural groundwater recharge area. Located within 2 miles of the site are two groundwater recharge areas or spreading grounds for the San Fernando Valley Groundwater Basin - the Pacoima and the Hansen spreading grounds. Local well logs and an *Environmental Priorities Initiative Preliminary Assessment* report written by Ecology and Environment, Inc. for EPA also suggests that no continuous confining or clay layers exist to protect the groundwater within a 2 mile radius surrounding the site (10). The aquifer beneath the site is considered to act as one hydrological unit and is used for drinking water. Beneath the site, groundwater is first encountered approximately 65 feet bgs.

The regional groundwater flows from north to south. The rate of flow increases south and southeast of the site due to a channeling effect from the shallow bedrock and the Verdugo Fault Zone (VFZ), a major geologic structure in the Pacoima area. The VFZ runs northwest to

southeast in the area along San Fernando Boulevard. The fault acts as a partial barrier to groundwater flow. Along the VFZ, groundwater cascades from the eastern side, at about 70 ft bgs, down to the western side, at about 300 ft bgs. The Site is located north and east of the VFZ, however, the on-site monitoring wells differ drastically in the depth to groundwater and it is believed that this could be as a result of the VFZ. Groundwater monitoring data recorded January 25, 1991, MW-1 depth to groundwater was recorded as 63.11 ft, MW-2 was 65.59, and MW-3 was 92.46. Current monitoring well data is consistent with past measurements except that MW-1 has been abandoned and the newest monitoring well, the well used for background, MW-4 is recorded at 65.49 feet. Therefore, groundwater flow within the boundaries of the Site appears to flow to the north, opposite to the regional flow. (4,9)

Groundwater Targets: Groundwater is currently pumped from four well fields within four miles of the site. The City of Los Angeles (LADWP) operates three well fields: Mission (1-2 miles upgradient, 3 wells); Tujunga (2-3 miles downgradient, 12 wells) and Rinaldi-Toluca (3-4 miles downgradient, 5 of 15 wells). These wells provide LADWP 15% of its service water, the largest portion of groundwater supplied to the City of Los Angeles. The LADWP operates a blended system that serves 3.7 million people in the greater Los Angeles area. The City of San Fernando operates 1 wellfield 2-3 miles upgradient that has 4 wells. The City of San Fernando wells provide 75% of the drinking water for approximately 24,000 people in a blended system. (4)

Surface Water Targets: The surface runoff flows to the asphalted streets and into storm drains. These drains discharge into the local storm drain system which empty into the Los Angeles River (distance-6 miles) and then to the Pacific Ocean (distance-40 miles). There are no drinking water intakes, fisheries, or sensitive environments associated along this route. Therefore, the surface water pathway was determined to be insignificant and was not evaluated.

5.3 Factors Related to Air Pathways:

The Site is entirely fenced, secured, paved and covered with buildings. In the case of future site development, human exposure to VOCs in the shallow soil via the air pathway may represent a potential human exposure pathway. Site sampling results suggest that the shallow soil VOC concentrations are not high enough to produce appreciable breathing zone concentrations when the soil is exposed to the atmosphere. Therefore, the air pathway was determined to be insignificant.

The weather is generally sunny and dry. The average temperature is 65 degrees Fahrenheit. The average annual rainfall is 23 inches. The prevailing wind speed is 5 miles per hour.

6.0 FIELD INVESTIGATIONS AND SAMPLING ACTIVITIES

Past investigations at the site are discussed in Section 3 of this report. The following sections describe the sampling activities and results of assessments conducted in June and July of 1997. These investigations were conducted by DTSC, for the EPA, to characterize the Site's chemicals of concern (COCs). Past assessment activities discovered groundwater contamination at three locations over the Site. Remedial activities tended to focus on the disposal area and failed to adequately characterize the rest of the Site. Additionally, the closure data for the disposal area remedial activities failed to adequately characterize the last sample results. Therefore, the current investigative field activities focused on obtaining onsite groundwater samples and additional confirmatory soil samples in Area 1- the 'Vault' area, Area 2- the outside work area and location of MW2, Area 3- the 'upgradient' MW3 location, and Area 4- the soil and groundwater background location. The field sampling plan and its revision (Attachment A) provided a framework for the investigation field activity and allowed for some decisions to be made in the field.

All samples were analyzed for volatile organic compounds (Method EPA 8260). Selected samples were analyzed for semivolatile organic substances (Method EPA 8270).

The sampling teams met with refusal when drilling by hand and Cone Penetrometer Testing, therefore limited numbers of soil borings were collected. However, using a hydraulically powered direct push sampling rig, a limited access hollow stem auger and a hand auger three soil samples were collected from depths of 0.50 feet bgs to 8 feet bgs in Area 2 and one soil sample was collected at 0.50 feet bgs in Area 1. During the July investigation while attempting to obtain soil samples from Area 2 the drill rig broke, thereby ending this phase of the investigation. All soil samples were collected in new brass sample sleeves.

A complete and accurate assessment of Area 1 during the site reconnaissance of September 1996 was not possible due to the capacity load of raw steel housed on this location. During this sampling exercise D & M Steel cleared the proposed sampling locations, at which time it was discovered that MW1 had been previously abandoned without apparent regulatory oversight. One groundwater sample from MW2 was collected on June 2, 1997 and two groundwater samples from MW3 and MW4 were collected on July 23 and 24, 1997. Groundwater samples from MW2 were obtained using a disposable bailer. Groundwater samples from MW3 and MW4 were obtained using a Grundfos readi-flow submersible pump. All groundwater samples were collected in new VOC and SVOC sample containers. All wells are screened within the same aquifer and at approximate depths. MW4 is located upgradient within a quarter mile from D & M Steel and on the northern boundary of the Price Pfister site.

6.1 Presentation of PEA Data:

Trace VOCs were detected in collected soil samples and higher levels of VOCs were detected in collected groundwater. No SVOCs were detected in any samples collected. Table 1 summarizes the results for analyses that had detected amounts. The analytical results are

correlated to sampling locations at the site shown in Figure 3. The analytical result documents are attached in the appendix. In addition to field quality assurance and quality control (QA/QC) samples, all environmental samples sent to EPA fixed and mobile labs were partially or completely validated.

VOCs:

VOCs were analyzed using EPA Method 8260. No major problems were encountered during the course of these analyses. Sample YY271 was not adequately preserved in the field to a pH of less than 2, a pH of 5 was measured by the laboratory. A tentatively identified compound, 1-fluoro-1,1-dichloroethane, was found in YY271 at an estimated 19 ug/l. Methylene chloride and carbon disulfide were present in equipment blanks YY272 and YY273, respectively. All samples were ND for those compounds therefore no qualification was necessary for carbon disulfide or methylene chloride. No trip blanks or field blanks were submitted with samples. Detected results for several volatile analytes are qualified as ND and estimated due to contamination in storage and method blanks. Several VOC results from the USEPA mobile laboratory are estimated due to calibration problems.

SVOCs:

SVOCs were analyzed by EPA Method 8270. No major problems were encountered during the course of these analyses. No trip or field blanks were taken. All results were estimated because they were below the contract required quantitation limits. Phthalates were found in samples YY278 and YY283; however, this contaminant is commonly found in the field and laboratories. Phenol was detected in sample YY470 and is qualified as ND and estimated due to contamination in equipment blank YY473 at a concentration of 2 ug/l.

Table 1
Department of Toxic Substances Control Analytical Summary Table
for Soil at D & M Steel June/July 1997

Boring No.	Sample ID	Date Sampled	Depth (feet bgs)	Location	Analyte	
					VOLATILES (ug/kg)	SVOC (ug/kg)
SS-1-06	YY269	06/02/97	0.5	Area 1	ND PCE (trace), Xylene (trace)	--
SS-2-05	YY274	06/02/97	0.5	Area 2	ND	--
SS-2-5	YY 467	07/24/97	5	Area 2	ND PCE(trace)	BRL
SS-2-8	YY275	06/02/97	8	Area 2	ND	BRL
SS-A1-06	YY278 BG	06/03/97	0.5	Area 4/ Bkgrnd	ND	BRL
SS-A1-3	YY279 BG	06/03/97	3	Area 4/ Bkgrnd	ND	BRL
SS-A1-10	YY280 BG	06/03/97	10	Area 4/ Bkgrnd	ND	BRL
SS-A1-15	YY281 BG	06/03/97	15	Area 4/ Bkgrnd	ND	BRL
SS-A1-40	YY282 BG	06/03/97	40	Area 4/ Bkgrnd	ND	BRL

Table 2 Groundwater at D & M Steel June/July 1997				
Location/ Sample No.	Sample ID	Date Sampled	Analyte	
			VOLATILES (ug/l)	SVOC (ug/l)
MW3/ GW 2	YY475 D1	07/23/97	ND PCE(140), TCE(50), 1,1,1-TCA(24), 1,1-DCE(20)	--
MW3/ GW 6	YY469 D1 / YY470	07/23/97	ND PCE(150), TCE(55), 1,1,1-TCA(25), 1,1-DCE(18)	BRL
MW2/ GW 3	YY270 D1	06/02/97	ND PCE(290), TCE(12), 1,1,1-TCA(250), 1,1-DCE(39)	BRL
MW2/ GW 4	YY271 D1	06/02/97	ND PCE(300), TCE(13), 1,1,1-TCA(280), 1,1-DCE(46)*	BRL
MW4/ GW 1	GW1	07/22/97	ND PCE(3.8), TCE(1.5)	--

MCLs for PCE and TCE (5 ug/l), 1,1,1-TCA (200 ug/l), 1,1-DCE (6 ug/l).

*Sample YY271 duplicate sent to offsite lab showed a decrease in PCE and an increase in 1,1-DCE. This is an expected degradation result for a sample sent offsite for analysis.

7.0 HUMAN HEALTH SCREENING EVALUATION

To evaluate potential risks to human health from exposure to the Site, a human health screening evaluation (HHSE) was conducted. The HHSE evaluates a residential scenario using conservative, health-protective default exposure assumptions and scenarios found in the California EPA DTSC PEA guidance manual, 1994. However, due to the limited sampling information provided during this assessment the risk and hazard estimates calculated may not be the maximum or 'worst case' site situation. Risks also may be overestimated due to using maximum detected values for exposure concentrations in lieu of the 95% upper confidence limit of the mean.

Risks to residents were quantitatively evaluated via the groundwater exposure pathways. The following sections discuss the exposure pathway and media of concern, exposure concentrations and chemicals, toxicity values, and risk characterization.

7.1 Exposure Pathways and Media of Concern

The following exposure routes and medias of exposure are applicable to residential land use, as per the PEA guidance, and were developed under conservative, health protective default assumptions and scenarios found in the guidance. In general, human receptors may be exposed

to the COCs through: inhalation of airborne dust, VOCs from soil, and vapors from water for household use, ingestion of surface water and groundwater, and incidental ingestion of soil, and dermal absorption by direct contact with the soil, surface water and groundwater.

The Site's subsurface lithology acts as a porous pathway for COCs that can leach from onsite sources such as the 'Vault'. The groundwater found under the site is shallow and contiguous with the downgradient drinking water aquifer. The downgradient drinking water aquifer provides drinking water for 3.7 million residents of Los Angeles from two wellfields. Therefore, residents are likely to be exposed to contaminants of concern (COCs) in the groundwater.

The Site's current housekeeping standards minimize hazardous substances at above ground locations and is paved so that surface water runoff is directed to local surface streets and the local storm drain system. Therefore, residents are not likely to be exposed to COCs via direct contact with surface water.

The Site is entirely covered by buildings and pavement and could only expose the nearby residents if excavation of the site occurred. Therefore, residents are not likely to be exposed under present conditions to COCs in the soil via direct contact or inhalation of airborne dusts.

7.2 Exposure Concentrations and Chemicals

Consistent with PEA guidance, the exposure point concentrations (EPC) used in the HHSE were the maximum concentrations of each contaminant detected in groundwater samples from on-site monitoring wells collected during the PEA. Background groundwater for PCE was 3.8 ug/l and TCE was 1.5 ug/l. Groundwater EPCs were as follows: PCE, TCE and 1,1-DCE were 300, 55 and 46 ug/l, respectively.

7.3 Toxicity Values

The hierarchy of toxicity values used for this assessment: cancer potency factors (CPF) or chronic reference doses (RfD) promulgated into California regulations, CPFs or RfDs used to develop environmental criteria promulgated into California regulations, USEPA's Integrated Risk Information System (IRIS), and USEPA's Health Effects Assessment Summary Table (HEAST), as appropriate.

Table 3 . Toxicity Values of Chemicals of Potential Concern

Chemical	CPF (1)	RfD/RfC (2)
1,1-Dichloroethylene	0.6/0.1 (oral/inh)	0.009 mg/kg (oral/inh)
Tetrachloroethylene	0.051 /0.021 (oral/inh)	0.01 mg/kg (oral/inh)
Trichloroethylene	0.015/0.01 (oral/inh)	0.006 mg/kg (oral/inh)

Sources of Toxicity Values: (1) Standards and Criteria Group - Cal/EPA Office of Environmental Health Hazard Assessment. Cancer Potency Factors (November 1, 1994). (2) HEAST, USEPA 1996.

Note: oral and inhalation CPFs = (mg/kg-day)⁻¹, Inh. = Inhalation.

7.4 Risk Characterization Summary

Chemical-specific risk and hazard equations for the residential land use scenarios are provided in the PEA guidance for the soil and groundwater pathways and are a summation of exposures for a child and an adult. The following tables present a summary of the equations for total toxicity values, calculations of risk and hazards for water and soil, and screening evaluations of chemicals in the soil and groundwater:

Calculation of Risk/Hazard for Water

$$\text{Risk for Non-VOCs} = (\text{CSFo} \times \text{Cw} \times 0.0149) + (\text{SFo} \times \text{Cw} \times 0.0235 \times \text{Kp})$$

$$\begin{aligned} \text{Risk for VOCs} = & (\text{SFo} \times \text{Cw} \times 0.0149) + (\text{SFi} \times \text{Cw} \times 0.0149) \\ & + (\text{SFo} \times \text{Cw} \times 0.0325 \times \text{Kp}) \end{aligned}$$

$$\text{Hazard for Non-VOCS} = ((\text{Cw}/\text{RfDo}) \times 0.0639) + ((\text{Cw}/\text{RfDi}) \times 0.0644 \times \text{Kp})$$

$$\begin{aligned} \text{Hazard for VOCs} = & (\text{Cw}/\text{RfDo} \times 0.0639) + (\text{Cw}/\text{RfDi}) \times 0.0639 \\ & + ((\text{Cw}/\text{RfDo}) \times 0.0644 \times \text{Kp}) \end{aligned}$$

Calculation of Risk/Hazard for Soil

$$\begin{aligned} \text{Risk} = & (\text{SFo} \times \text{Cs} \times (1.57 \times 10^{-4})) \\ & + (\text{Sfo} \times \text{Cs} \times (1.87 \times 10^{-5}) \times \text{ABS}) \end{aligned}$$

$$\begin{aligned} \text{Hazard} = & (\text{Cs}/\text{RfDo} \times (1.28 \times 10^{-5})) \\ & + (\text{Cs}/\text{RfDo}) \times (1.28 \times 10^{-4}) \times \text{ABS} \end{aligned}$$

Calculation of Risk/Hazard for Air

$$\text{Risk} = \text{SFi} \times \text{Cs} \times 0.149$$

$$\text{Hazard} = (\text{Ca/RfD}) \times 0.639$$

Table 4 Screening Evaluation of Chemicals Identified in Groundwater.

Chemical Location	Conc. ug/l (MCL ug/l)¹	Risk	Hazard
Tetrachloroethylene/MW2	300 ug/l (5.0)	6.5×10^{-3}	2.01
Trichloroethylene/MW3	55 ug/l (5.0)	5.9×10^{-4}	0.595
1,1-Dichloroethylene/MW2	46 ug/l (6.0)	5.0×10^{-3}	0.332

1: MCLs from the California Primary Drinking Water Requirements - Article 5.5, Section 64444. N/A = Not Applicable

Soil sample analysis has shown PCE and Xylene to be in trace levels in Areas 1 and 2. The screening evaluation of the contaminants (VOCs) identified in soil show that they do not pose cumulative risk and/or hazard to humans.

The screening evaluation of VOCs reported in the groundwater, without exception, resulted in risk greater than 1.0×10^{-6} and/or a hazard index of greater than 1.0. The resultant risk total is 1.2×10^{-2} and the hazard index is 2.93. Additionally, VOCs in groundwater exceeded State of California primary drinking water MCL standards.

The conservative health-protective nature of the assumptions used in the HHSE have resulted in health protective estimates of risk to human health. Examples of health protective assumptions include the following:

- * The land use of the Site is assumed to be residential, regardless of the current use and zoning for the Site. Alternative land use scenarios are beyond the scope of the PEA screening procedure.
- * The maximum detected concentration was used in quantifying risks; this may lead to a potential overestimation of risk, since the maximum concentration does not reflect the true exposure concentration, assuming equal exposure to all areas at the site. For example, Los Angeles residents using downgradient drinking water

wells were assumed to come into contact with groundwater at the maximum concentrations found in on-site monitoring wells without considering the attenuation/dilution that would occur between the site and the well locations.

Based on the available data and the health-protective assumptions used throughout the evaluation, the results indicate that the groundwater under the D&M Steel site poses a potential threat to public health as demonstrated by the screening evaluation. (11)

7.5 Ecological Screening Evaluation

The ecological screening evaluation includes a site characterization, biological characterization, pathway assessment, and qualitative summary. The evaluation identifies no known areas or habitats that could potentially be impacted by the chemicals of concern.

Site and Biological Characterization: The property is located in an industrialized area in the City of Pacoima. Entirely built on or otherwise covered by pavement, the property is used by human receptors only. The property does not provide a habitat for wildlife or vegetation, in particular, the San Diego Horned Lizard, the local endangered species. (6)

Pathway Assessment and Qualitative Summary: Environmental resources in the area include the San Fernando Valley Groundwater Basin - the Pacoima and the Hansen spreading grounds, located within 2 miles of the site. It is unlikely that these areas are affected by the site since no surface water pathway exists and since any contamination reaching these features through the soil- to- groundwater migration route would have to travel cross- gradient, the contamination would be very dilute.

8.0 COMMUNITY PROFILE

A 1990 local area demographics study found the areas nearly three and one-half million people with a racial distribution as follows: 40% were Hispanic, 37% were White, 13% were Black, 9% were Asian and 0.3% were Native American. Sixty-four percent of these individuals spoke only English and the remainder of the population spoke an evenly distributed selection of Spanish, Asian, and other languages. Fifty percent of the population finished elementary school and twenty-four percent attended high school without receiving a diploma. The average household income was \$45,701. (12)

Community interest in the site peaked during a series of newspaper articles, written in the summer of 1996, regarding the possible closure of the plant. Some interest still remains concerning job employment and hazardous work environments. (12)

Future public participation recommendations include a neighborhood distribution fact sheet.

9.0 EMERGENCY RESPONSE CONSIDERATIONS

The National Contingency Plan [40 CFR 300.415 (b)(2)] authorizes the EPA to consider emergency response actions at those sites that pose an imminent threat to human health or the environment. For the following reason, a referral to Region IX's Emergency Response Section does not appear to be necessary:

- No drinking water wells have been closed due to contamination directly linked to the site.

10.0 CONCLUSIONS AND RECOMMENDATIONS

Groundwater contamination by solvents has been discovered one half mile north and one half mile south/southwest of D & M Steel. DTSC took groundwater and limited shallow soil samples from the site. Soil sample analysis has shown PCE and Xylene to be in trace levels in Areas 1 and 2. However, low VOC detections may be due to difficulty in collecting undisturbed soil samples in rocky soil. Groundwater sample analysis for solvents has shown detectable levels in the onsite monitoring wells.

Risks associated with the site were calculated based on the PEA guidance document (California EPA DTSC 1994). Carcinogenic risks were found to be above the acceptable range of 10^{-4} to 10^{-6} for all solvents found in the groundwater. Hazard indices for noncarcinogenic constituents were also calculated based on the PEA guidance document and found to be above the acceptable hazard index of 1.

Based on risk and detected contamination it is recommended that further action be taken. At a minimum, this action should include further characterization of on-site sources (as recommended by the RWQCB in 1995) and annual onsite monitoring well sampling to be evaluated within a regional hydrogeologic evaluation.

The pertinent Hazard Ranking System Factors associated with the site are:

- The D&M property has a history of disposing chemicals and waste oils in a brick-lined vault located in the south/southwestern portion of the property. A soil vapor extraction system was installed. Verification samples of the vault area, after remediation, showed a decrease in soil and groundwater contamination of the immediate area. However, the final sample analysis documentation was incomplete and the sample borings were inadequate to determine if the Site's remediation was sufficient. Additionally, soil concentrations in the vicinity of MW2 and MW3 were undefined.

- Soil and groundwater samples were collected to document the presence of hazardous substances at the Site. On-site monitoring wells sampling results show VOCs above MCLs are still present in the groundwater. However, two separate sampling events, utilizing four different collection methods, were undertaken to collect good soil samples. Both events met with difficulty and refusal in Area 1 at a depth of 6 inches and Area 2 at a maximum sample depth of 8 feet. Consequently, few soil sample results were collected to assess the site for risk and hazard.
- Tetrachloroethylene (PCE) and its associated breakdown products have been detected in a Los Angeles Department of Water and Power (LADWP) monitoring well, located one-half mile downgradient of the Site. The monitoring well sample was drawn from the aquifer that serves the Tujunga and Rinaldi-Toluca well fields. The Tujunga well field is located 2-3 miles from the site. The Rinaldi-Toluca well fields are located 3-4 miles away. LADWP draws 15% of its total service water from these wells. LADWP services 3.7 million people. These wells are at risk from the above mentioned contamination. Currently one well in the Toluca well field has been closed from production due to PCE contamination.
- Unconfined groundwater first encountered beneath the site is approximately 65 feet below ground surface (bgs) with underground lithology consisting of porous materials of gravel and sand. The surrounding area is so porous that its historical and current use is as a groundwater recharge area.

REMEDIAL SITE ASSESSMENT DECISION - EPCRA REGION IX

Page 1 of 1

EPA ID: CA0001368182 Site Name: D & M STEEL

State ID:

Alias Site Names:

City: PACOIMA

County or Parish: LOS ANGELES

State: CA

Refer to Report Dated: 05/30/1998 / 11-1-99 Report Type: SITE INSPECTION .001

Report Developed by: STATE

DECISION:

☐ 1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:

☐ 1a. Site does not qualify for further remedial site assessment under CERCLA (No Further Remedial Action Planned - NFRAP)

☐ 1b. Site may qualify for action, but is deferred to:

☒ 2. Further Assessment Needed Under CERCLA:

2a. Priority: ☒ Higher ☐ Lower

2b. Other: (recommended action) High

DISCUSSION/RATIONALE:

VOCs found at levels significantly above EPA groundwater action levels (MCLs). High priority ESI is recommended. Regional groundwater is shown to have VOC contamination.

Site Decision Made by: RACHEL LOFTIN

Signature: Rachel Loftin

Date: 04/19/2000

REMEDIAL SITE ASSESSMENT DECISION - E REGION IX

Page 1 of 1

EPA ID: CA0001368182 Site Name: D & M STEEL

State ID:

Alias Site Names:

City: PACOIMA

5/20/98 Orig. date County or Parish: LOS ANGELES

State: CA

Refer to Report Dated: 11/01/1999 *Revised* Report Type: PRELIMINARY ASSESSMENT 001

Report Developed by: STATE

DECISION:

☐ 1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:

☐ 1a. Site does not qualify for further remedial site assessment under CERCLA (No Further Remedial Action Planned - NFRAP)

☐ 1b. Site may qualify for action, but is deferred to:

☒ 2. Further Assessment Needed Under CERCLA:

2a. Priority: ☒ Higher ☐ Lower

2b. Other: (recommended action) High

DISCUSSION/RATIONALE:

REFER TO SI DECISION FORM DATED 4/19/2000.

Site Decision Made by: RACHEL LOFTIN

Signature: 

Date: 04/19/2000

APPENDICES

APPENDIX A

REFERENCE LIST

REFERENCES

- 1) California Department of Toxic Substances Control (DTSC). *Preliminary Endangerment Assessment Guidance Manual*. 1994.
- 2) U.S. Environmental Protection Agency, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database
- 3) DTSC Calsites database
- 4) Nagel, Richard, P.E. City of Los Angeles Department of Water and Power. 3/97, (Revised 11/99). Upper Los Angeles River Area Watermaster - *Watermaster Service in the Upper Los Angeles River Area of Los Angeles County, 1994-95 Water Year (Oct 1, 1994 thru Sept 30, 1995), Report*. May 1996.
- 5) U.S. Geological Survey, 7.5' Quadrangle Map of San Fernando, CA
- 6) U.S. Environmental Protection Agency, Geographical Information System (GIS)
- 7) Kleinert Industries. *Final Soil Remediation Report*. November, 1991.
- 8) D & M Steel. *Soil Remediation Closure Report*. June, 1994.
- 9) Gonzales, Frank, R.G. Department of Toxic Substances Control. 11/97
State of California, Dept of Water Resources, Southern District - *Bulletin No. 104, Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix A, Ground Water Geology*. June 1961
- 10) Ecology and Environment. *Environmental Priorities Initiative Preliminary Assessment for American Etching and Manufacturing site*, March 26, 1991.
- 11) Luthra, Yugal, Toxicologist. Department of Toxic Substances Control. 11/97, Revised 11/99.
- 12) Nuno, Alex. County of Los Angeles Community Development. 10/97

APPENDIX B

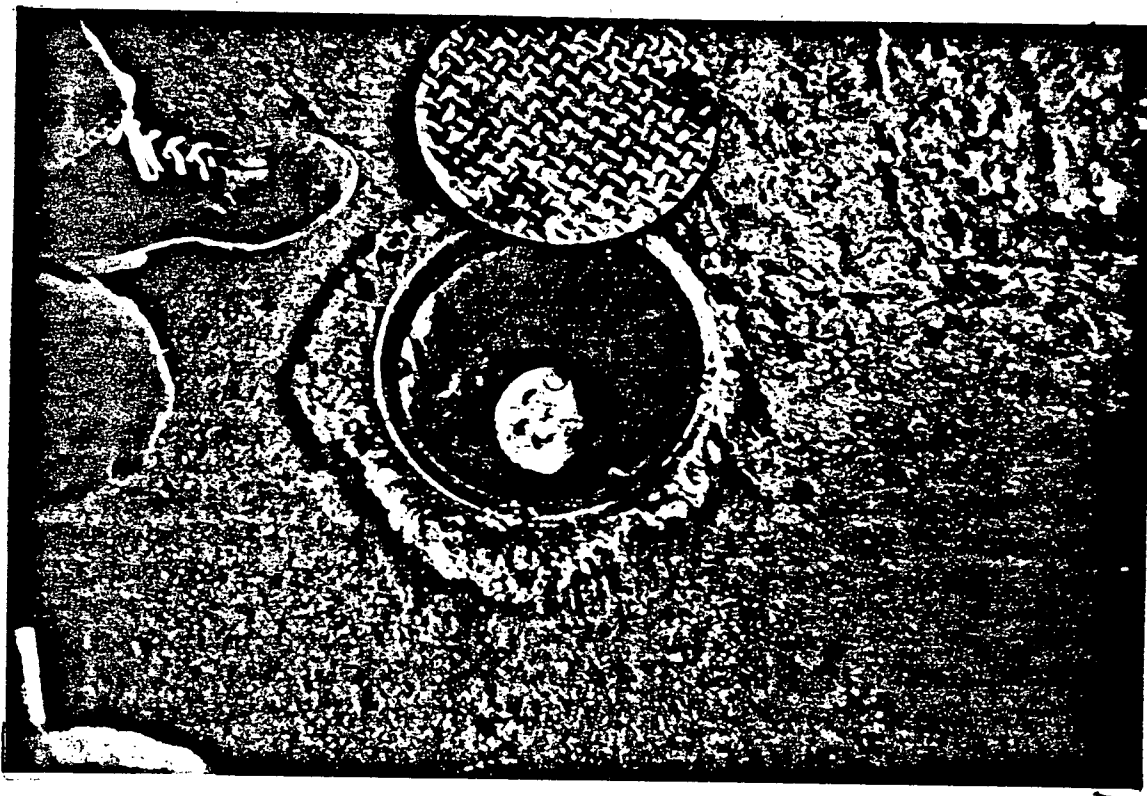
PHOTOS



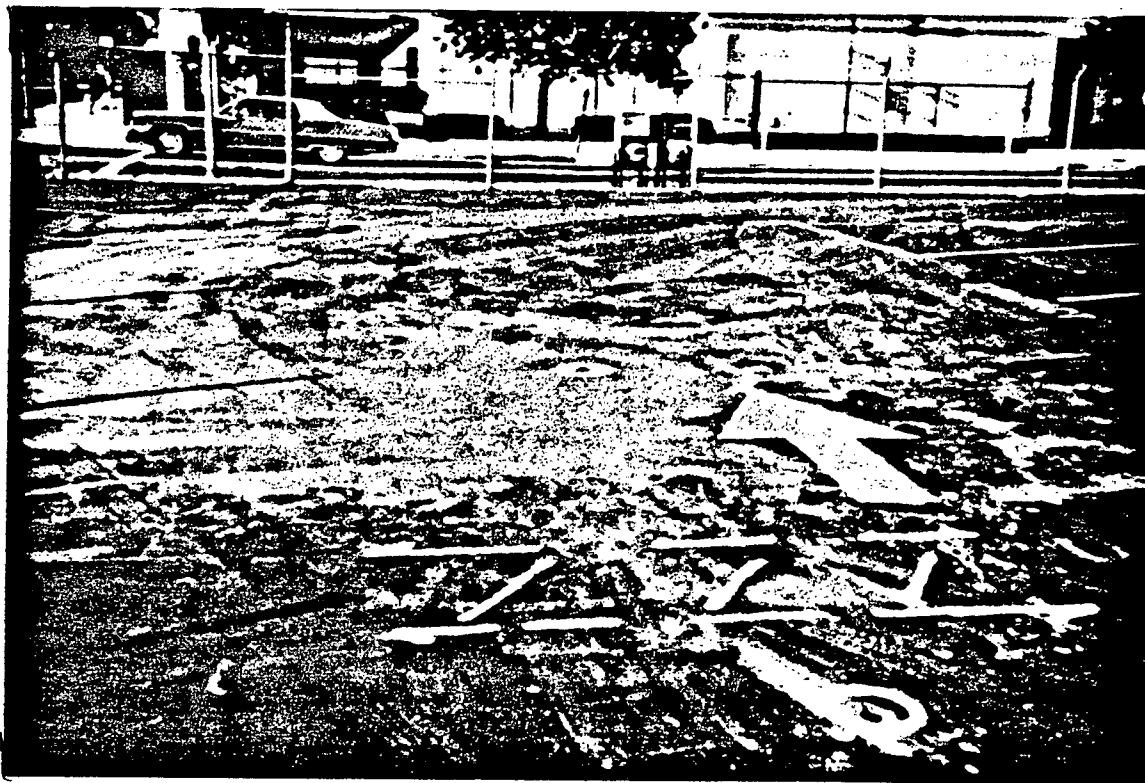
Monitoring Well 3
located in northern
portion of the facility.
Price Pfister is in
background.



Monitoring Well 3 with D & M offices in background.



Monitoring Well 2 located in the southern portion of the facility.



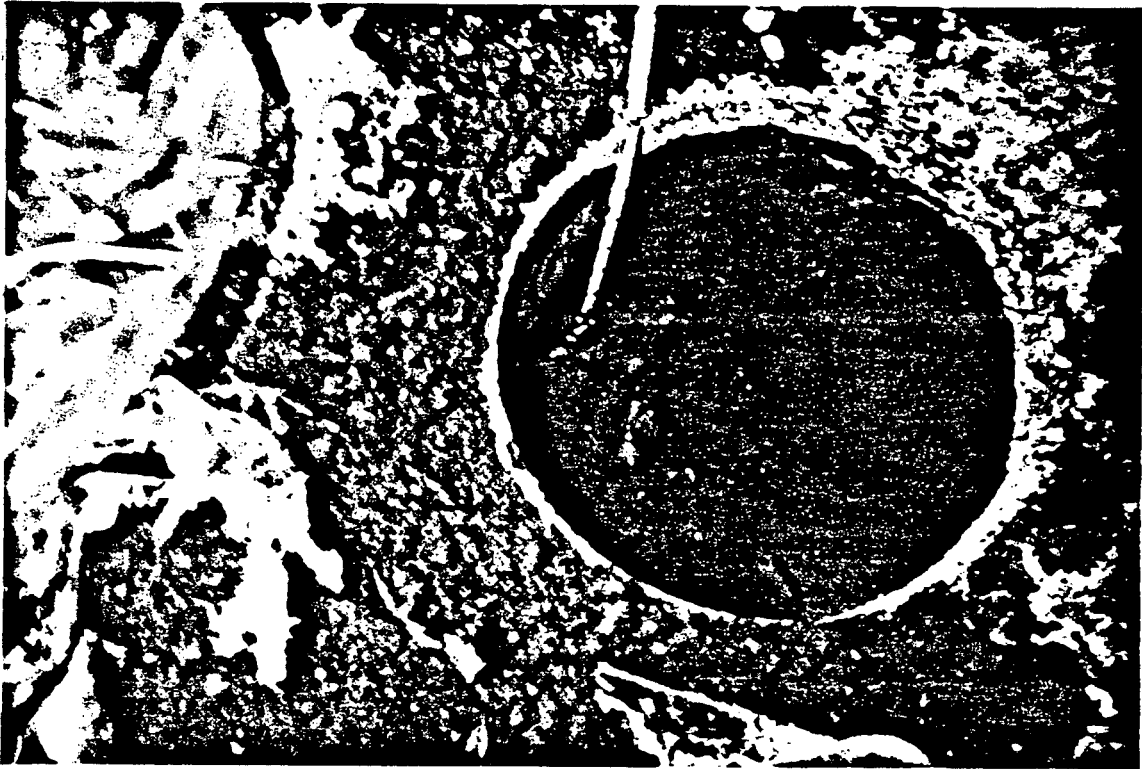
Monitoring Well 4 located on the northeastern section of the Price Pfister facility.



Area 1 is located in the southwest portion of the site.



Abandoned Monitoring Well 1 location



Area 1 sample boring

APPENDIX C

CONTACT LOG

Contact Log

Site: D & M Steel

Contact Name:	Affiliation:	Phone Number:	Information:
Melvin Blevins	LADWP	(213) 367-1020	Groundwater
Richard Nagel	LADWP	(213) 367-0906	Groundwater
Walter Salas	RWQCB-LA	(213) 266-7542	RWQCB Files
David Dagmi Michael Atia	Site Representative	(818) 896-2070	Operations

APPENDIX D

CONTACT REPORTS

CONTACT REPORTS

AGENCY/AFFILIATION: Dept of Water & Power - Los Angeles		CODE:
DEPARTMENT: Watermaster		
ADDRESS:		CITY: Los Angeles
COUNTY: Los Angeles	STATE: CA	ZIP:
CONTACT: Mr. Richard Nagel	TITLE: Assistant to Watermaster	PHONE: (213) 367-0906
DTSC PERSON MAKING CONTACT: Lori Parnass		DATE: Various
SUBJECT: LADWP's drinking water system		
SITE: D & M Steel		EPA ID: CAO001368182

DISCUSSION:

The drinking water system for Los Angeles.

Wells, population, areas served, blended system, imported waters.

AGENCY/AFFILIATION: Dept of Water & Power - Los Angeles		CODE:
DEPARTMENT: Watermaster		
ADDRESS:	CITY: Los Angeles	
COUNTY: Los Angeles	STATE: CA	ZIP:
CONTACT: Mr. Melvin Blevins	TITLE: Watermaster	PHONE: (213) 367-1020
DTSC PERSON MAKING CONTACT: Lori Parnass		DATE: Various
SUBJECT: LADWP's drinking water system		
SITE: D & M Steel		EPA ID: CAO001368182

DISCUSSION:

Geological information.

Sampling information from LADWP wells nearby to D & M Steel

The drinking water system for Los Angeles.

Wells, population, areas served, blended system, imported waters.

AGENCY/AFFILIATION: Regional Water Quality Control Board		CODE:
DEPARTMENT:		
ADDRESS:		CITY: Monterey Park
COUNTY: Los Angeles	STATE: CA	ZIP:
CONTACT: Mr. Walter Salas	TITLE: Geologist	PHONE: (213) 266-7542
DTSC PERSON MAKING CONTACT: Lori Parnass		DATE: Various
SUBJECT: RWQCB's files on D & M Steel/Kleinert		
SITE: D & M Steel/Kleinert		EPA ID: CAO001368182

DISCUSSION:

Review files.

RWQCB history at the D & M Steel/Kleinert site

Geological and sampling information.

APPENDIX E

SITE RECONNAISSANCE INTERVIEW AND OBSERVATION REPORT

APPENDIX E

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT

NONE TAKEN

OBSERVATIONS MADE BY:

DATE: ____

FACILITY REPRESENTATIVE(S) and TITLE(S):

SITE:

EPA ID: CAD

A site reconnaissance was conducted at the _____ site on _____.
The weather was _____ and the temperature was approximately _____°F. The
() team, _____ and _____, conducted the
site reconnaissance with _____ at _____ to gather
information on the site location and size, site history, processes used, and any hazardous waste
generated, treated, stored or disposed of on site. _____ was provided with a packet of
information prepared in response to _____ letter dated _____. The
reconnaissance included a site tour during which photographs were taken.

The following information was obtained during the site reconnaissance:

5073

Transmittal List for PEA/SI

Site: D & M Steel
EPA ID: CAO001368182

Mr. David Dagmi
Mr. Michael Atia
11035 Sutter Avenue
Pacoima, CA 91333

Ms. Rebecca Chou, Unit Chief
Regional Water Quality Control Board, Los Angeles
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Mr. Tom Klinger
Los Angeles County - Fire Department Health Hazardous Materials Division
58025 Rickenbacker Road
Commerce, California 90040

D & M Steel
PEA/SI 11/1/99

APPENDIX F

FIELD SAMPLING PLANS (ORIGINAL AND AMENDED)

U.S. Environmental Protection Agency Region IX
Hazardous Waste Management Division
Field Operations Branch

Addendum to D & M Steel Field Sample Plan

Prepared by:
Department of Toxic Substances Control
1011 N. Grandview Avenue
Glendale, CA 91201

July 10, 1997

EPA Work Assignment Manager: Rachel Loftin

For EPA use:

Received by Superfund Project
Manager:

Date:

Reviewed by:

Date:

Status: ☐ Approved

☐ Not Approved

Expedited Review ☒ Yes

☐ No

Received by QA Management
Section:

Date:

Reviewed by:

Date:

Status: ☐ Approved

☐ Not Approved

Concurrence:

Date:

Chief, Quality Assurance
Management Section
Environmental Services
Branch, OPM

1.0 OBJECTIVES OF SAMPLING EFFORT

The Department of Toxic Substances Control (DTSC) will conduct a supplemental field sampling effort to the sampling effort begun June 2, 1997 through June 6, 1997. This second phase is scheduled to take place July 21, 22, and 23, 1997. This document serves to incorporate additional samples and methods into the Field Sampling Plan (FSP) approved for the sampling effort of June 2-6, 1997.

Field sampling will be conducted under protocol accepted by the U.S. Environmental Protection Agency (EPA) as specified in the *Preparation of a U.S. EPA Region IX Sample Plan for EPA-Lead Superfund Projects* guidance document (Quality Assurance Management Section, U.S.EPA, Region IX, August, 1993) and the programmatic Quality Assurance Project Plan, (QAPjP) submitted by DTSC on April 19, 1995 and approved by the EPA on February 23, 1996. Laboratories participating in the EPA Contract Laboratory Program (CLP) will be utilized for analyses. Laboratory services will be obtained and coordinated through the EPA Quality Assurance Management Section (QAMS).

2.0 ADDITIONAL SAMPLING

~~THE LITHOLOGY UNDER THE SITE IS GRAVEL AND GRAVELY SAND~~
Due to ~~difficult regional lithology~~, previously proposed shallow sample collection methods have failed. This general refusal has required a reevaluation of soil sample collection methods. The revised sampling strategy is to use a limited access hollow stem auger CME 75 rig to dig to depth for soil samples. The dimensions of the rig is 7' 4" wide, 11' long, and 11' high. Groundwater samples will be collected with disposable bailors.

2.1 Soil Sampling. As shown in Figure 2-3, sampling of soil will be conducted at two locations. The sampling intervals for sample locations at Areas 1 and 2 have been amended to 5 feet, 10 feet, and 15+ feet below ground surface (bgs). The bottom sample will be collected at the maximum depth that will be reached by the limited access rig. *which is estimated at 25'.*

Soil samples will be analyzed using the methods and protocols as previously described in the field sample plan of June 1997. The USEPA Field Analytical Services Program (FASP) will analyze the volatile organic compounds samples and the Contract Laboratory Program (CLPAS) will analyze for semi-volatile organic compounds (SVOCs). ~~The lithology under the site is gravel and gravelly sand.~~ In order to get accurate chemical concentrations from the sample pore spaces and prevent a loss of sample volatiles in transport the FASP analyses method was chosen for those appropriate samples.

- Surface and subsurface soil samples will be identified as SS-1-5, SS-1-10, SS-1-15, SS-2-5, SS-2-10, and SS-2-15. Sample location 1 is at the previous disposal area next to MW-1 and Area 2 is located at the previous manufacturing area. Subsurface soil samples will be collected at depths of 5 feet, 10 feet, and 15+ feet bgs. The bottom samples will be collected at the maximum depth that will be reached by the limited access rig.

2.2 Groundwater Sampling. On June 2, 1997, the onsite MW-1 was discovered to have been abandoned and cemented over. However MW-3 is intact and will be sampled, as shown in Figure 2-3. The regional groundwater on the site flows south/southwest. The depth to groundwater is approximately 68 feet bgs. All groundwater underneath the site is considered

to be one hydrologic unit. Drinking water is obtained from the same hydrologic unit. This information will be used to provide more information on the presence and concentration measurements of regional groundwater contaminants.

3.0 REQUEST FOR ANALYSES

The D & M Steel site was identified as a potential hazardous waste site and entered into the CERCLIS database on February 16, 1996 (CA0001368182). DTSC will conduct this field sampling effort to gather data as part of an PEA/SI under CERCLA. The anticipated sampling dates for this sampling effort are July 21, 1997 to July 23, 1997. The following samples (including duplicate, QA/QC, and equipment rinsate samples) will be collected and analyzed as part of this effort:

- Six (6) low concentration surface and subsurface soil samples for CLPAS volatile organic compounds, CLPAS semivolatile organic compounds and FASP volatile organic compounds.
- Three (3) low concentration groundwater and equipment rinsate blank samples for CLPAS volatile organic compounds, CLPAS semivolatile organic compounds (SVOCs) and FASP volatile organic compounds (VOCs).

4.1 Soil Sample Analyses

As described in Table 4-1A, soil samples will be taken at 2 locations: Area 1 and 2. Single volume soil samples collected at the following sample locations will be identified to the laboratory for use in laboratory quality assurance/quality control (QA/QC): Area 2. Duplicate soil samples will be collected at the following sample locations: Area 2. These samples were chosen because it is suspected that this location is a source of contamination.

As shown in Table 4-1A, soil samples (including laboratory QA/QC samples) will be analyzed using the CLP for SVOCs and volatile organic compounds, and FASP for VOCs.

4.2 Groundwater Sample Analyses

As described in Table 4-2A, groundwater samples will be taken at one (1) location: MW-3 (GW-6). Double volume water sample collected at the following sample location will be identified to the laboratory for use in QA/QC: GW-6. As shown in Table 4-2A, each water sample (including laboratory QA/QC samples) will be analyzed using the CLP for SVOCs and volatile organic compounds, and FASP for VOCs.

4.2.1 Equipment Rinsate Blank Analyses

Equipment Rinsate blanks will be prepared as described in Section 8.1 of the FSP. Equipment rinsate samples will be analyzed using the CLP for VOCs and SVOCs and FASP for VOCs.

The equipment rinsate blanks will be prepared in the field and at locations Area 2 and MW-3. Table 4-2A shows the tentative locations for equipment rinsate blanks. A minimum of one equipment rinsate blank will be collected each day per matrix that sampling equipment is decontaminated in the field.

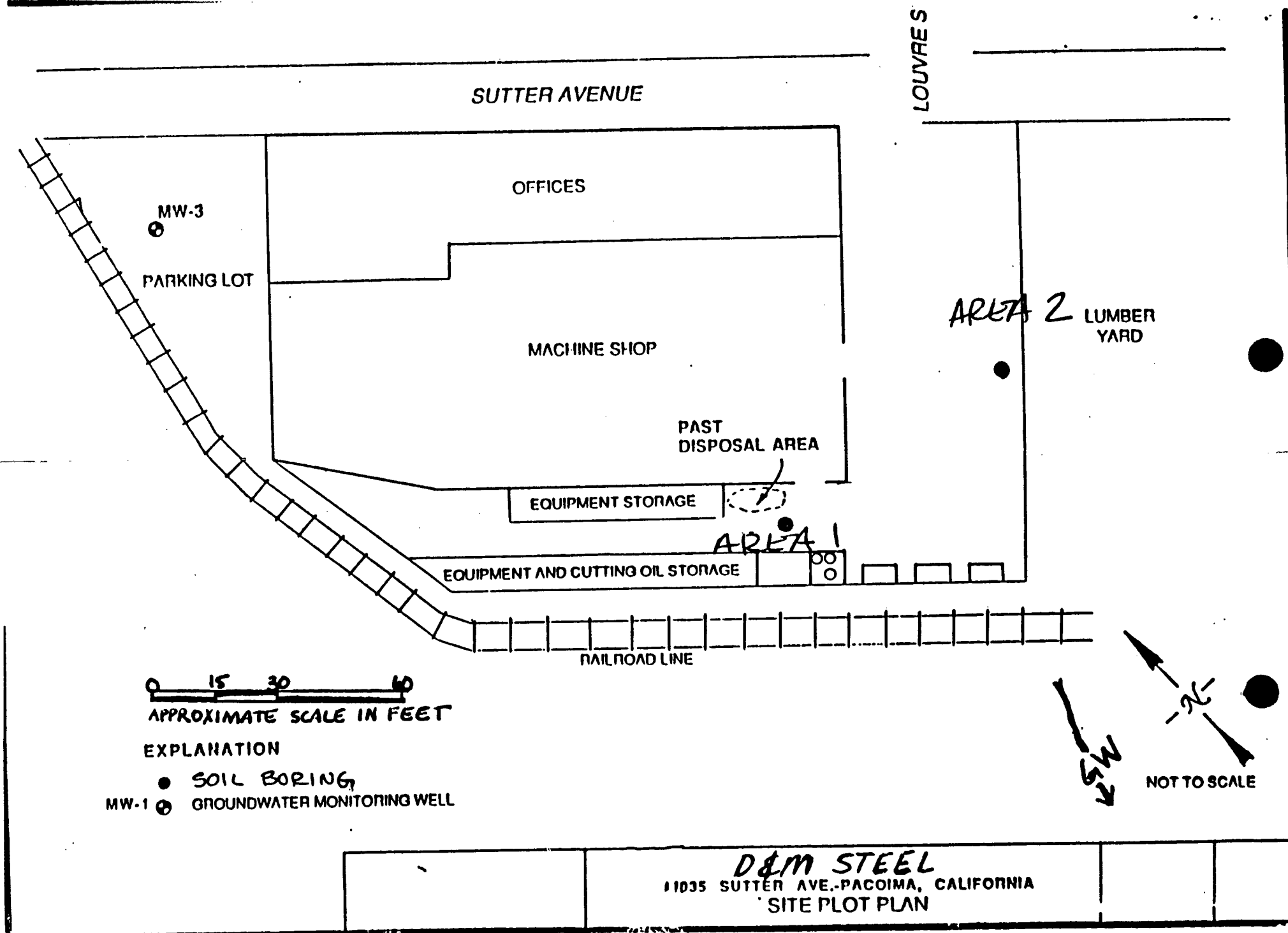


Figure 2-3
 FSP D&M STEEL ADDENDUM
 DTSC REGION 2 SMOA

Table 4-1A
REQUEST FOR ANALYTICAL SERVICES
MATRIX = SOIL

ANALYSES REQUESTED							CONTRACT LABORATORY PROGRAM ANALYTICAL SERVICES (CLPAS)		FIELD ANALYTICAL SERVICES (FASP)	
CHEMISTRY TYPE							ORGANICS		ORGANICS	
SPECIFIC ANALYSES REQUESTED							CLPAS VOCs	CLPAS SVOCs	FASP Volatile Organics (VOCs)	
PRESERVATIVES							Chill to 4°C	Chill to 4°C	Chill to 4°C	
ANALYTICAL HOLDING TIME(S)							Hold <14 days	Hold <14 days prior to extraction, 40 days after extraction		
CONTRACT HOLDING TIMES(S)							Hold <10 days	Hold <10 days prior to extraction, 40 days after extraction		
SAMPLE x SAMPLE							No. of Containers per Analysis	No. of Containers per Analysis	No. of Containers per Analysis	
Sample Number	Sample Location	Sample Depth	Samplin g Date	Special Designatio n	Conc. LOW MED		2" X 3" brass sleeve	1 x 8 ounce wide mouth glass jar	2' X 3" brass sleeve	
SS-1-5	Area 1	5 feet			X			1	1	
SS-1-10	Area 1	10 feet			X			1	1	
SS-1-15	Area 1	15 feet			X			1	1	
SS-2-5	Area 2	5 feet			X			1	1	
SS-2-10	Area 2	10 feet		QA/QC	X		1	1	1	
SS-2-100	Area 2	10 feet		DUP	X			1	1	
SS-2-15	Area 2	15 feet			X			1	1	

Totals

Table 4-2A
REQUEST FOR ANALYTICAL SERVICES
MATRIX = WATER

ANALYSES REQUESTED							CONTRACT LABORATORY PROGRAM ANALYTICAL SERVICES (CLPAS)		FIELD ANALYTICAL SERVICES PROGRAM (FASP)	
CHEMISTRY TYPE							ORGANICS		ORGANICS	
SPECIFIC ANALYSES REQUESTED							VOCs		SVOCs	
PRESERVATIVES							Add 1:1 HCl to pH <2 Chill to 4°C		Chill to 4°C	
ANALYTICAL HOLDING TIME(S)							Hold <7 days		Hold <7 days prior to extraction, 40 days after extraction	
CONTRACT HOLDING TIMES(S)							Hold <5 days		Hold <5 days prior to extraction, 40 days after extraction	
SAMPLE x SAMPLE							No. of Containers per Analysis		No. of Containers per Analysis	
Sample Number	Sample Location	Sample Depth	Samplin g Date	Special Designatio n	Conc. LOW	MED	3 x 40 mi glass vials		2 x 1 liter amber glass jar	
GW-6	MW-3			QA/QC	X		2 44469		2 44470	
GW-7	Area 2			Rsoil	X		1 44471		1 44472	
GW-8	MW-3			RH2O	X		1		1	

Totals

5.0 METHODS AND PROCEDURES

5.1 SOIL SAMPLING

Exact soil sampling locations will be determined in the field based on accessibility, visible signs of potential contamination (e.g., stained soils), and topographical features which may indicate location of hazardous substance disposal (e.g., depressions that may indicate a historic excavation). Soil sample locations will be recorded in the field logbook when sampling is completed. A sketch of the sample location will be entered into the logbook and any physical reference points will be labeled. If possible, distances to the reference points will be given.

Soil samples will be collected by boring to the desired sample depth using a limited access auger rig. Samples to be analyzed for volatile organic compounds will be collected first directly with a 2 X 3 inch brass sleeve. Samples to be analyzed for SVOCs and metals will be transferred from the auger to a sample-dedicated 1-gallon disposable pail and homogenized with a trowel. Material in the pail will be transferred with a trowel from the pail to the appropriate sample containers. Sample containers will be filled to the top with measures taken to prevent soil from remaining in the lid threads prior to being sealed to prevent potential contaminant migration to or from the sample. After sample containers are filled, they will be immediately sealed, chilled if appropriate, and processed for shipment to the laboratory.

5.2 GROUNDWATER SAMPLING

5.2.1 Water-Level Measurements. If well heads are accessible, all wells will be sounded for depth to water from top of casing and total well depth prior to purging. An electronic sounder, accurate to the nearest +/- 0.01 feet, will be used to measure depth to water in each well. When using an electronic sounder, the probe is lowered down the casing to the top of the water column, the graduated markings on the probe wire or tape are used to measure the depth to water from the surveyed point on the rim of the well casing. Typically, the measuring device emits a constant tone when the probe is submerged in standing water and most electronic water level sounders have a visual indicator consisting of small light bulb or diode that turns on when the probe encounters water. Total well depth will be sounded from the surveyed top of casing by lowering the weighted probe to the bottom of the well. The weighted probe will sink into silt, if present, at the bottom of well screen. Total well depths will be measured by lowering the weighted probe to the bottom of the well and recording the depth to the nearest 0.1 feet.

Water-level sounding equipment will be decontaminated before and after use in each well. Water levels will be measured in wells which have the least amount of known contamination first. Wells with known or suspected contamination will be measured last.

5.2.2 Purging. All wells will be purged prior to sampling. If the well casing volume is known, a minimum of three casing volumes of water will be purged using submersible pump for well MW-3. Water will be collected into a measured bucket to record the purge volume. Casing volumes will be calculated based on total well depth, standing water level, and casing diameter. One casing volume will be calculated as:

$$V = \pi d^2 h / 77.01$$

where:

V is the volume of one well casing of water (in gallons, $1 \text{ ft}^3 = 7.48 \text{ gallon}$);

d is the inner diameter of the well casing (in inches); and

h is the total depth of water in the well (in feet).

Prior to the start of purging, in the middle of purging each casing volume, and after each well casing volume is purged; water temperature, pH, and specific conductance will be measured using field test meters and the measurements will be recorded. Samples will be collected after these parameters have stabilized; indicating representative formation water is entering the well. Three consecutive measurements which display consistent values of all parameters will be taken prior to sampling. Samples will be collected after three well casing volumes if parameters have stabilized. Typically, the temperature should not vary by more than $\pm 1^\circ\text{C}$, pH by more than 0.2 pH units, and specific conductance by more than 10 percent from reading to reading. No water that has been tested with a field meter probe will be collected for chemical analysis. If these parameters have not stabilized after five casing volumes have been purged (30 minutes if the purge volume is not known), purging will cease, a notation will be recorded in the field logbook and samples will be collected. In accordance with Section 7.1, depth to water measurements, field measurements of parameters, and purge volumes will be recorded in the field logbook.

If a well dewateres during purging and three casing volumes are not purged, that well will be allowed to recharge up to 80 percent of the static water column, and dewatered once more. After water levels have recharged to 80 percent of the static water column, groundwater samples will be collected.

All field meters will be calibrated according to manufacturers guidelines and specifications before and after each day of field use. Field meter probes will be decontaminated before and after use at each well.

5.2.3 Well Sampling. Prior to sampling the well, the water level will be measured as described in Section 5.2.1 and purged as described in Section 5.2.2. Groundwater samples will be collected using teflon bailors.

Sampling
At the location, all bottles designated for a particular analysis will be filled sequentially before bottles designated for the next analysis are filled. If a duplicate sample is to be collected at this location, all bottles designated for a particular analysis for both sample designations will be filled sequentially before bottles for another analysis are filled. In the filling sequence for duplicate samples, bottles with the two different sample designations will alternate. Groundwater samples will be transferred from the bailer directly into the appropriate sample containers with preservative, if required, chilled, and processed for shipment to the laboratory. When transferring samples, care will be taken not to touch the bailer emptying device to the sample container.

Low concentration groundwater samples to be analyzed for volatile organic compound analyses will be filled first to minimize aeration of water in the well. A test vial will be

preserved with HCl to determine the amount of preservative needed to lower the pH to less than 2. The appropriate amount of HCl will then be added to the sample vials prior to the addition of the sample. The 40-ml glass vials will be filled directly from the bailor. The vial will be inverted and checked for air bubbles to insure zero headspace. If a pea-size or larger air bubble appears, the vial contents will be emptied into the measured container, the vial discarded, and a new sample will be collected. Three vials of each groundwater sample is required for each laboratory.

Low concentration groundwater samples to be analyzed for semivolatile organic compound analyses will be collected in 1-liter amber glass bottles. No preservative is required for these samples. The samples will be chilled to 4 degrees C immediately upon collection. Two bottles of each groundwater sample are required for each laboratory.

5.2.4 Equipment Rinsate Blanks

Equipment rinsate blanks will be collected to evaluate field sampling and decontamination procedures by pouring high performance liquid chromatography (HPLC) solvent free water (for organics) or deionized water (for inorganics) over the decontaminated sampling equipment. One equipment rinsate will be collected per matrix each day that sampling equipment is decontaminated in the field. equipment rinsate blanks will be obtained by passing water through or over the decontaminated sampling devices used that day. The rinsate blanks that are collected will be analyzed using the CLPAS for SVOCs and VOCs and the FASP for VOCs.

6.0 Duplicate Samples

A duplicate soil sample will be collected at Area 2 at 10 feet. It will be collected from this location because it is suspected to exhibit high concentrations of contaminants.

7.0 Laboratory Quality Control Samples

A laboratory quality control soil sample will be collected at Area 2 at 10 feet because it is suspected to exhibit high concentrations of contaminants.

Laboratory quality control groundwater samples will be collected from MW-3 because samples from this location are suspected to exhibit high concentrations of contaminants.

8.0 Field Variances

As conditions in the field may vary, it may become necessary to implement minor modifications to sampling as presented in this plan. When appropriate, QAMS will be notified of the modifications and a verbal approval will be obtained before implementing the modifications. Modifications to the approved plan will be documented in the PEA/SI Report.

U.S. Environmental Protection Agency Region IX
Hazardous Waste Management Division
Field Operations Branch

Field Sample Plan

**D & M Steel
11035 Sutter Avenue
Pacoima, California**

Site EPA ID Number CA0001368182
Anticipated Sampling Date: June, 1997

Prepared by:
Department of Toxic Substances Control
1011 N. Grandview Avenue
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Original January 1997, Revised April 1997

EPA Project Manager: Rachel Loftin
Phone Number: (415) 744-2347

QAPjP Approval Date: February 23, 1996

For EPA use:

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Reviewed by: _____	Date: _____
Status: <input type="checkbox"/> Approved	<input type="checkbox"/> Not Approved
Expedited Review? <input type="checkbox"/> Yes	<input type="checkbox"/> No
Received by QA Management Section:	Date: _____
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Concurrence:	Date: _____

Chief, Quality Assurance
Management Section
Environmental Services Branch, OPM

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1.0 OBJECTIVES OF SAMPLING EFFORT

The Department of Toxic Substances Control (DTSC) will conduct this field sampling effort to gather data as part of a Preliminary Endangerment Assessment (PEA)/Site Inspection (SI) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) and the California Hazardous Substances Accounts Act (HSAA). The PEA/SI builds upon the body of information developed during the site screening (SS) by verifying and substantiating the collected data, collecting additional data through a site reconnaissance visit, and collecting physical environmental samples to analyze for the presence of hazardous substances. The sample results will be used to locate a source point of contamination in the soil to link a site to a recently discovered regional groundwater contamination plume. A determination on the site attribution to the plume can then be made.

Field sampling will be conducted under protocol accepted by the U.S. Environmental Protection Agency (EPA) as specified in the *Preparation of a U.S. EPA Region IX Sample Plan for EPA-Lead Superfund Projects* guidance document (Quality Assurance Management Section, U.S. EPA, Region IX, August, 1993) and the programmatic *Quality Assurance Project Plan*, (QAPjP) submitted by DTSC on April 19, 1995 and approved by the EPA on February 23, 1996. Laboratories participating in the EPA Contract Laboratory Program (CLP) will be utilized for analyses. Laboratory services will be obtained and coordinated through the Regional Sample Control Coordinator in the EPA Region IX Quality Assurance Management Section (QAMS). The data quality objectives of a PEA, as specified in the PEA Guidance Manual (DTSC, January 1994) will also be met by this Field Sample Plan. Specific objectives of the PEA include:

- Determining if a release of hazardous wastes/substances exists at the site and delineating the general extent of the contamination.
- Estimating the potential threat to public health and/or the environment posed by the site and providing an indicator of relative risk among sites.
- Determining if an expedited response action is required to reduce an existing or potential threat to public health or the environment.
- Completing preliminary project scoping activities to determine data gaps and identify possible remedial action strategies to form the basis for development of a site strategy.
- Providing the data and information necessary to list the site, if necessary, for inclusion in the DTSC Annual Workplan.
- Assessing and providing for the informational needs of the community.

The site being investigated is the D&M Steel (D&M) site CA0001368182 in the City of Pacoima, Los Angeles County, California. A steel and aluminum fabricator (Paragon

Precision Products) operated at the site from the 1950s until about 1980. Paragon cut and formed raw materials into metal parts for turbomachinery. Waste oil from this process was disposed of into a brick-lined vault, located on the western side of the southwestern corner of the main building. In 1982, Kleinert Industries bought the property and developed it to operate a machine shop. Kleinert sold the property to D&M Steel in 1990. Currently, D&M manufactures welded steel products for construction. On-site monitoring well sampling results have detected volatile organic compounds (VOCs) in the groundwater. Pacoima groundwater is potable water. The VOCs include 1,1-dichloroethane, 1,1-dichloroethane, 1,2-dichloroethane, 1,1,1-trichloroethane, toluene, and tetrachloroethene. The objective of DTSC's sampling effort is to determine the presence and measure the concentrations of contaminants in on-site soil and groundwater. In addition, representative soil undisturbed by site activities and hydraulically upgradient groundwater will be sampled to establish background concentrations. These data will be used to support decision-making efforts by the EPA as part of the PEA/SI process.

2.0 BACKGROUND

2.1 Location

The D & M Steel (D&M) site is located at 11035 Sutter Avenue, in Pacoima, California. The geographic coordinates of the site are 34° 16' 15.9" N latitude and 118° 25' 30.2" W longitude (Township 2N, Range 15 W, U.S.G.S. San Fernando, 7.5-minute quadrangle). The location of the site is shown in Figure 2-1.

2.2 Site Description

D&M is located in a industrial/commercial/residential corridor of Pacoima. The site consists of a 16,000 square foot, one story concrete building. The northern portion of the building consists of offices and restrooms. The remaining portion of the building is an open work area. There is an asphalt covered parking area located on the northwest side of the building, which is bisected by a rail spur. Further northwest D&M is bordered by Polyester Chemical Company and north is Sutter Avenue and Price Pfister, Inc. The southwestern portion of the site is covered by asphalt and concrete and is used both for storage and a work area, and further southwest is a railroad line, on the southeast the site

AREA 3 ↑

SUTTER AVENUE

LOUVERES

DAM FSP 4/97

upgradient

MW-3

PARKING LOT

OFFICES

MACHINE SHOP

PAST
DISPOSAL AREA

EQUIPMENT STORAGE

MW-1

SB-13

AREA 1

EQUIPMENT AND CUTTING OIL STORAGE

RAILROAD LINE

AREA 2 LUMBER
YARD

MW-2

0 15 30 60

APPROXIMATE SCALE IN FEET

EXPLANATION

SB-13 • VAPOR EXTRACTION WELL
MW-1 • GROUNDWATER MONITORING WELL

NOT TO SCALE

Figure 2-2 Site Layout

KLEINERT INDUSTRIES
11035 SUTTER AVE. PACOIMA, CALIFORNIA
SITE PLOT PLAN

is covered by asphalt and is used for deliveries of materials, storage, and a work area, further southeast is a lumberyard. The eastern portion of the site is bordered by Sutter Avenue and Louvre Street. Figure 2-2 shows the facility layout.

The approximate depth to groundwater is 68 feet and the flow direction is regionally south/southwest.

2.3 Operational History

From the 1950's until about 1980, Paragon Precision Products occupied the site and used a brick-lined vault, located on the western side of the southwestern corner of the building, for disposal of waste oil. Paragon fabricated steel and aluminum parts for turbomachinery. Raw materials were cut and formed by lathing machines. Metal cuttings were periodically collected from around each machine and disposed of in drums and trash bins in the southwest corner of the property. Historically, metal fabricators are known to use solvents for cleaning.

In 1981, Kleinert Industries bought the property and developed it to operate a machine shop. Historically, machine shops are known to use solvents for cleaning. Kleinert sold the property to D&M Steel in 1990.

Currently, D&M Steel manufactures welded steel products for construction (building frame, stair cases, etc.) and specialty steel products. The main manufacturing activities are conducted inside the building, but large items are constructed in the southern portion of the site.

2.4 Previous Investigations

Sampling events prior to 1989 are unknown. In 1989, the Kleinert Industries reported results of an environmental audit to the Los Angeles County Department of Health Services (LACDHS). The audit discovered an on-site, brick-lined hazardous materials disposal area (vault) that was the source for soil impacted by hydrocarbons and volatile organic compounds (VOCs). The impacted soil was found from the bottom of the vault to groundwater at 65 feet below ground surface. The LACDHS transferred lead agency status of the site to the California Regional Water Quality Control Board (RWQCB) in 1991, and a remediation program was operated under the direction of the RWQCB. The remediation consisted of vapor extraction of the volatile compounds from the soils, with recovery into carbon canisters. The vapor extraction system operated from May 1990 through February 1991. In 1991, samples were taken from a verification boring (VBI) and the results showed a reduction of hazardous constituents in the soil and groundwater around Monitoring Well 1.

2.4.1 Soil Sampling. In June/August 1989, a preliminary site assessment was done by Thorne Environmental for the site owners. An on-site brick-lined disposal 'vault' located on the southwest portion of the D&M site was discovered. Fourteen soil boring locations were tested for toluene (T), ethylbenzene (E), and xylenes (X) using EPA test method 8020 (benzene was not included), petroleum hydrocarbons (TPH) for gasoline, diesel, kerosene,

heavy hydrocarbons using EPA test method 8015, and VOCs using EPA test method 8010. Soil boring 13, closest to the brick-lined vault, had samples taken at 5 foot intervals from 5 feet to 65 feet below ground surface (bgs). TPH was detected at all intervals to 60 feet, tetrachloroethene was detected at 15 and 25 feet bgs as high as 9.8 milligrams per kilogram (mg/Kg), and 1,1,1-trichloroethane was detected at 45, 52, and 60 feet bgs as high as 5.3 mg/Kg. The analytical data appear to be of insufficient quality for use at the PEA/SI stage because no quality assurance/quality control or chain of custody were attached to the summary chart.

In May 1990, a groundwater assessment and vapor extraction treatability study was done by Thorne Environmental for the site owners. A vapor extraction system was put into place. No sample data results were available from this sampling survey as of January 1997.

In January 1991, after the vapor extraction system (VES) had been operating, Thorne Environmental drilled a verification boring in Area 1 and next to the VES operation. Soil samples were taken at 5 foot intervals to 60 feet and the samples were tested for total petroleum hydrocarbons (TPH) using EPA test method 8015M and volatile organics using EPA test method 8010/8020. The results for most of the petroleum related contaminants fell below reporting limits and the TPH and BTEX results were in the parts per billion. Results for the volatile organic compounds were reported as falling below the reporting limits of 10 ug/Kg. The analytical data appear to be of sufficient quality for use at the PEA/SI stage.

In February 1993, CET Environmental Services, Inc. (formerly Thorne Environmental) performed, in accordance with workplans approved by the RWQCB, four soil borings to 60 feet bgs at 5 foot intervals. These soil borings were to provide additional data on the lateral and vertical extent of remaining hydrocarbons and volatile organic compounds, if any. No VOCs were detected in the soils. The analytical data appear to be incomplete as of January 1997 because some sample results, QA/QC, and chain of custody for the samples results are not included in the sample analysis report.

2.4.2 Groundwater Sampling. In 1990, after discovering contaminated soils in and near the vaulted disposal area, three on-site groundwater monitoring wells (MW) were installed. MW-1 is located at the disposal area and is estimated to be 85.5 feet in total depth, MW-2 is located east/southeast of MW-1 and is estimated to be 85.5 feet in total depth, and MW-3 is located upgradient and north of MW-1 and MW-2 and is estimated to be 85.5 feet in total depth.

Initial groundwater test results taken March 22, 1990 and using EPA method 601/602 (all read in ug/L) detected 1,1-dichloroethane (MW1- 90, MW2- 98, and MW3- 40), 1,1,1-trichloroethane (MW1- 1,300, MW2- 1,100, and MW3- 66), trichloroethene (MW1- 78, MW2- 70, and MW3- 329), and tetrachloroethene (MW1- 1,100, MW2- 920, and MW3- 170). DTSC noted that background sample results revealed contamination levels above Maximum Contaminant Levels (MCLs). The analytical data appear to be of sufficient quality for use at the PEA/SI stage.

Groundwater concentrations taken January 22, 1991, after vadose zone remediation, and using EPA test methods 8010/8020 (all read in ug/L) detected 1,1-dichloroethane (MW1- 45, MW2- 104, and MW3- 8), 1,1,1-trichloroethane (MW1- 489, MW2- 1,072, and MW3- 26), trichloroethene (MW1- 42, MW2- 56, and MW3- 215), and tetrachloroethene (MW1- 760, MW2- 741, and MW3- 134). The MCLs for 1,1-dichloroethane (6 ug/L), 1,1,1-trichloroethane (200 ug/L), trichloroethene (5 ug/L), and tetrachloroethene (5 ug/L). The analytical data may be of sufficient quality for use at the PEA/SI stage.

2.5 REGULATORY INVOLVEMENT

2.5.1 United States Environmental Protection Agency (EPA):

The D&M site is listed in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on February 16, 1996.

2.5.2 California Environmental Protection Agency (CAL-EPA):

Department of Toxic Substances Control (DTSC): On May 30, 1996, the D&M site was listed on the CALSITES database (# 19340769). It is believed that Phase I and II assessment work was conducted under the Department of Health Services but no files could be found with DTSC.

Regional Water Quality Control Board, Los Angeles (RWQCB): Lead agency status for vapor extraction was reassigned from the LACDPW to the RWQCB in 1991.

2.5.3 Southern California Air Quality Management District (SCAQMD) and the Los Angeles County Department of Public Works (LACDPW):

From April 1990 through February 1991, a vapor extraction well was installed and operated under a SCAQMD permit and approved by the Los Angeles County Department of Public Works (LACDPW).

2.5.4 County of Los Angeles Fire Department, Health Hazardous Materials Division (HHMD):

HHMD had a Paragon Precision Product business license on file but no inspection records for the property at 11035 Sutter Avenue. No files could be found for Phase I or Phase II work conducted under the Department of Health Services for Kleinert Industries or D & M Steel.

2.6 APPARENT PROBLEM

The apparent problems at the site are:

- On-site monitoring well sampling results show VOCs above MCLs may still be present in the groundwater. After an on-site vapor extraction system had been ran, verification sampling, around area MW1 only, showed a decrease in the soil and groundwater. While the D&M property had a history of disposing chemicals and waste oils in a brick-lined vault located in the south/southwestern portion of the property, VOC contamination was found in groundwater samples from the other two on-site monitoring wells. Metal fabrication plants traditionally use solvents in plant operations.
- All water underneath the site is potable groundwater. It is first encountered at approximately 67 feet below ground surface (bgs) with underground lithology consisting of very porous materials of small to medium gravels and sand. The lithology of the surrounding area is so porous in fact that its historical and current use is as a groundwater recharge area.
- The nearest drinking water wells are located 2-3 and 3-4 miles away and totals 30 wells. Water from these wells are blended to serve a large population and may be at risk from the regional groundwater plume.
- Good samples are needed to attribute site soil to groundwater contamination.

3.0 HAZARD RANKING SYSTEM (HRS) FACTORS

The HRS is a scoring system used to assess the relative threat associated with actual or potential releases of hazardous substances from sites. It is the principal mechanism EPA uses to place sites on the National Priorities List (NPL). The quality of the data obtained from sampling and analysis at a site must be sufficient to meet the criteria for usage in the HRS, in accordance with the data quality objectives (DQO) documented in the Guidance for Data Usability in Site Assessment, Interim Final, January 1993, U.S. EPA Office of Emergency and Remedial Response.

3.1 Waste Characteristics

Previous investigations indicate that hazardous substances were disposed of in a vaulted area. Soil samples will be collected to determine if hazardous substances are present in the soil. Groundwater samples will be collected to identify any localized release of hazardous substances from the soil at the site. Both soil and groundwater samples will help determine site attribution to the regional groundwater plume. Based on a review of readily available information, there do appear to be offsite sources capable of influencing either the rationale for sampling or the analytical data. Upgradient offsite leaking underground storage tanks of solvents have been found to be leaching into the regional groundwater and these contaminants may influence sampling results.

3.2 HRS Pathways

Based on previous independent reports and historical documents the following media may have been impacted by a release from Site:

- **Onsite Soil.** Although the site is covered with buildings and asphalt, the hazardous substances disposed of in the vault may have seeped through the on-site brick-lined disposal area. Soil samples will be collected to document the presence of hazardous substances in the Site's soil. The Site is located in an industrial/commercial/residential area and is fenced.
- **Groundwater.** The Site is located in the northeastern portion of the San Fernando Groundwater Basin (SFB). The SFB is an unconfined alluvial basin primarily composed of sands and gravel interbedded with thin intermittent silt and clay layers. Discharge of sediments from Tujunga Canyon has resulted in the deposition of coarser sediments in the northern and eastern portion of the SFB. These sediments are characterized by high soil permeability and transmissivities. Groundwater is currently pumped from nearby well fields.

The Mission, Toluca, Renaldi, and City of San Fernando Well Fields are located within four miles of the site. The Toluca and Renaldi well fields serve large populations and are proximally located down gradient of the regional plume.

Located within 2 miles of the site are two groundwater recharge areas or spreading grounds for the San Fernando Valley Groundwater Basin-the Pacoima and the Hansen spreading grounds. This suggests that no continuous confining or clay layers protect the groundwater for a 2-mile radius surrounding the site. The aquifers beneath the site are considered to act as one hydrological unit and is used for drinking water. Beneath the site, the groundwater is first encountered approximately 67 feet bgs and regionally flows to the south/ southwest. A major geologic structure in the Pacoima area is the Verdugo Fault Zone (VFZ). The VFZ extends from the Pacoima Hills, located approximately 3 miles northwest of Hanson Dam, along the base of the Verdugo Mountains. The fault acts as a partial barrier to groundwater flow. The Site is believed to be located northeast of the VFZ.

The City of San Fernando operates 4 wells within 2-3 miles of the site. The wells provide 75% of the drinking water for approximately 26,000 people. The Los Angeles City Department of Water and Power (LADWP) operates 6 wells within 2-3 miles of the site and 20 wells within 3-4 miles downgradient of the site. LADWP drinking water from the wells within the target radius of the site provides 15 % of the drinking water for approximately 540,000 people and is a blended system that serves the greater Los Angeles area.

- Analytical results from groundwater sampling events after the VES indicate the

presence of 1, 1-dichloroethane (MW2-104 ug/L), 1,1,1-trichloroethane (MW2- 1,072 ug/L), trichloroethene (MW3- 215 ug/L), and tetrachloroethene (MW1- 760 ug/L). The analytical data may be of sufficient quality for use at the PEA/SI stage. The MCLs for 1, 1-dichloroethane, 1,1, 1-trichloroethane, trichloroethene, and tetrachloroethene are 6 ug/L, 200 ug/L, 5 ug/L, and 5 ug/L, respectively. An HRS score of ≥ 28.5 is contingent on detecting trichloroethene, tetrachloroethene, 1,1,1-trichloroethane, and 1,1-dichloroethane at concentrations above their respective MCLs.

3.3 Sampling Recommendations

Sampling points were selected using the judgmental approach. When developing the rationale for the volatile organic compounds (VOCs) analytical parameters the regional groundwater plume and site operations, history, storage, disposal, and previous sample results were considered.

The sampling strategy is to use a hydraulic direct push sampler to dig to depth for soil samples which will be tested for VOCs, to use a hand auger to obtain soil samples in areas that cannot be collected with the Cone Penetrometer Test (CPT) Hydropunch rig, and to collect groundwater samples with a bailer. The CPT logs will be used to determine the most appropriate lithology, within a predetermined interval, to obtain subsurface soil samples. The Hydropunch will be used to obtain groundwater samples. A disposable bailer will be used to grab the groundwater samples and liners will be used to take the soil samples.

The lithology under D & M is gravel and rock. In order to get accurate chemical concentrations from the sample pore spaces and prevent a loss of sample volatiles in transport the Field Analytical Support Program (FASP) mobile field laboratory must be used to analyze subsurface and surface soil VOC samples. The FASP standard operating procedures (SOPs) will be followed using method F93001. The USEPA Contract Laboratory Program analytical services (CLPAS) will analyze ten percent of FASP VOCs for QA/QC analysis.

3.3.1 Soil Sampling. As shown in Figure 2-2, the proposed subsurface soil sampling will be conducted at 3 locations: an area for background that is hydraulically upgradient from the site (Area 3), the previous manufacturing area next to MW-2 (Area 2), and the previous disposal area next to MW-1 (Area 1). At location areas 2 and 3 subsurface soil samples will be collected at three intervals: between 5 to 10 feet, 15 to 25 feet and at forty (40) feet below ground surface (bgs). In Area 1 surface and subsurface soil samples will be collected at 6 inches, 3 feet and 6 feet bgs or deeper depending on equipment capability. Soil samples will be collected to verify contamination concentrations within the soil and to determine the attribution to the groundwater contamination.

The suffix of a soil sample number indicates the depth in feet from which the sample was collected. For example, sample number SS-1-10 designates a soil sample collected from sample location 1 at a depth of 10 foot bgs, sample number SS-1-20 designates a soil sample collected from sample location 1 at a depth of 20 feet bgs, and sample number SS-1-80

designates a soil sample collected from sample location 1 at a depth of 80 feet bgs.

There has been a metal fabrication and machine shop on site since the 1950's.

- **AREA 3** - was selected for background samples because it is believed to be representative of conditions that existed in the site vicinity before site operations. Background samples will be taken in similar geological strata to the other sample locations and at similar depths. For this sampling Area 3 is offsite and not located at the previous Area 3 (or MW 3). The previous Area 3 displayed signs of contamination above what is believed to be regional background. Subsurface soil samples will be collected at location depths of SS-3-5, SS-3-15, and SS-3-40 and will be designated as background samples. These samples will be analyzed by FASP for VOCs.
- **AREA 2** - was selected because it was the area used for metal fabrication processes by previous site tenants. Subsurface soil samples will be collected at location depths of SS-2-5, SS-2-15, and SS-2-40 and will be designated as verification samples. These samples will be analyzed by FASP for VOCs.
- **AREA 1** - was selected because it was the historical "vault" area used for the disposal of waste oils by previous site tenants. Subsurface soil samples will be collected at location depths of SS-1-06, SS-1-3, and SS-1-6 and will be designated as verification samples. These samples will be analyzed by FASP to verify the presence VOCs.

For all soil sampling locations exact locations will be determined in the field based on accessibility, visible signs of potential contamination (e.g., stained soils), and topographical features which may indicate location of hazardous substance disposal (e.g., depressions that may indicate a historic excavation). Any deviations will be described in the PEA/SI report.

3.3.2 Groundwater Sampling. As shown in Figure 2-2, groundwater sampling will be taken with the direct push Hydropunch in Area 3 and from already existing on-site monitoring wells 1 and 2 which are approximately 85.5 feet. The depth to groundwater is approximately 68 feet bgs and regionally flows in a south/southwest direction. All groundwater underneath the site is considered to be one hydrologic unit and is used for drinking water.

All water samples will be analyzed using FASP for VOCs. The following rationale were used to determine the sample locations:

- Sample location Area 3 is hydraulically upgradient from the site and will be used for the designated background groundwater sample, GW-5. This area was chosen because it appears to be representative of conditions that existed in the area prior to the development of business operations.
- Sample locations Areas 1 and 2 were chosen because they were the previous disposal area (Area 1) and manufacturing area (Area 2) and past sample events showed

contamination of the groundwater at these points. The proposed samples, GW-3 and GW-4 are intended to be representative of conditions that currently exist at the site.

4.0 REQUEST FOR ANALYSES

The D & M site was identified as a potential hazardous waste site and entered into the CERCLIS database on February 16, 1996 (CA0 001368182). Department of Toxic Substances Control (DTSC) will conduct this field sampling effort to gather data as part of an PEA/SI under CERCLA. The anticipated sampling dates for this sampling effort is June, 1997. The following samples (including duplicate, QA/QC, and equipment rinsate samples) will be collected and analyzed as part of this effort:

- A total of seven (7) surface and subsurface soil samples for FASP VOCs will be collected from two (2) locations. One (1) soil samples will be collected and analyzed for CLPAS VOCs. Table 4-1 shows the required number of sample containers and volumes for the sample analysis.
- Six (6) groundwater and equipment rinsate blank samples for FASP VOCs will be collected from two (2) locations. One (1) groundwater sample will be collected and analyzed for CLPAS VOCs. Table 4-2 shows the required number of sample containers and volumes for the sample analysis.

The data packages provided by FASP for all FASP analyzed samples must be definitive and equivalent to the CLP data package.

4.1 Soil Sample Analyses

As described in Table 4-1, soil samples will be taken at two (2) locations: Areas 1 (SS-1-06, SS-1-3, and SS-1-6) and 2 (SS-2-5, SS-6, SS-2-15, and SS-2-40). A single volume soil sample collected at the following sample location will be identified to the laboratory for use in laboratory quality assurance/quality control (QA/QC): SS-2-15. Duplicate soil samples will be collected at the following sample locations: SS-6.

As shown in Table 4-1, each soil sample will be analyzed using the FASP for VOCs.

4.2 Groundwater Sample Analyses

As described in Table 4-2, groundwater samples will be taken at two (2) locations: Area 1 (GW-5) and Area 2 (GW-3, GW-4). A double volume water sample will be collected at the following sample location and identified to the laboratory for use in QA/QC: Area 2 (GW-3). A duplicate water sample will be collected at the following sample location: Area 2 (GW-4). As shown in Table 4-2, each water sample (including laboratory QA/QC samples) will be analyzed for FASP VOCs.

4.3 Equipment Rinsate Blank Analyses

The equipment rinsate blanks will be prepared as described in Section 8.1. Equipment rinsate from water and soil samples will be analyzed for FASP VOCs. The equipment rinsate blanks will be prepared following the decontamination of groundwater and soil sampling equipment used to collect on-site samples. Table 4-2 shows each equipment rinsate sample blank will be analyzed using the FASP for VOCs. A minimum of one equipment rinsate blank will be collected each day per matrix that sampling equipment is decontaminated in the field.

**Table 4-1
REQUEST FOR ANALYTICAL SERVICES
MATRIX = SOIL**

ANALYSES REQUESTED						CONTRACT LABORATORY PROGRAM ANALYTICAL SERVICES (CLPAS)		FIELD ANALYTICAL SERVICES PROGRAM (FASP)	
CHEMISTRY TYPE						INORGANICS		ORGANICS	
SPECIFIC ANALYSES REQUESTED						CLPAS Metals		CLPAS VOX's	
PRESERVATIVES						None required		Chill to 4°C	
ANALYTICAL HOLDING TIME(S)						Hold to 6 months (28 days for Hg)		Hold < 14 days	
CONTRACT HOLDING TIMES(S)						Hold to 35 days (26 days for Hg)		Hold < 10 days	
SAMPLE x SAMPLE						No. of Containers per Analysis		No. of Containers per Analysis	
Sample Number	Sample Location	Sample Depth	Sampling Date	Special Designation	CONC. LOW MED		plastic sleeve or 2" X 3" brass sleeve	2" X 3" brass sleeve	2" X 3" brass sleeve
SS-2-5	Area 2	5 feet			X				1
SS-2-15	Area 2	15 feet		QA/QC	X			1	1
SS-6	Area 2	15 feet		DUP	X				1
SS-2-40	Area 2	40 feet			X				1
SS-1-06	Area 1	06 inches			X				1
SS-1-3	Area 1	3 feet			X				1
SS-1-6	Area 1	6 feet			X				1
TOTAL						1		7	

**Table 4-3
REQUEST FOR ANALYTICAL SERVICES
MATRIX = WATER**

ANALYSES REQUESTED						CONTRACT LABORATORY PROGRAM ANALYTICAL SERVICES (CLPAS)				FIELD ANALYTICAL SERVICES PROGRAM (FASP)
CHEMISTRY TYPE						INORGANICS	ORGANICS			
SPECIFIC ANALYSES REQUESTED						Metals	VOCs	SVOCs	Pesticides/PCBs	FASP Volatile Organic (VOCs)
PRESERVATIVES						Add HNO ₃ to pH < 2	Add 1:1 HCl to pH < 2 Chill to 4°C	Chill to 4°C	Chill to 4°C	Chill to 4°C
ANALYTICAL HOLDING TIME(S)						Hold to 6 months (28 days for Hg)	Hold < 7 days	Hold < 7 days prior to extraction, 40 days after extraction	Hold < 7 days prior to extraction, 40 days after extraction	
CONTRACT HOLDING TIMES(S)						Hold to 35 days (26 days for Hg)	Hold < 5 days	Hold < 5 days prior to extraction, 40 days after extraction	Hold < 5 days prior to extraction, 40 days after extraction	
SAMPLE x SAMPLE						No. of Containers per Analysis	No. of Containers per Analysis	No. of Containers per Analysis	No. of Containers per Analysis	No. of Containers per Analysis
Sample Number	Sample Location	Sample Depth	Sampling Date	Special Designation	CONC. LOW MED	1 x 1 liter polyethylene bottle	3 x 40 ml glass vials	2 x 1 liter amber glass jar	2 x 1 liter amber glass jar	3 X 40 ml glass vials
GW-1			Day 1	Rsoil	X					1
GW-2			Day 2	RH2O	X					1
GW-3	Area 2			QA/QC	X					2
GW-4	Area 2			DUP	X		1			1
GW-5	Area 1				X					1
TOTAL										1

6

1

5.0 METHODS AND PROCEDURES

This section describes the methods and procedures that will be used to collect soil and groundwater samples. All samples will be handled in accordance with approved QAPJP procedures and the chain-of-custody guidelines specified in Section 7.3 and transferred into pre-cleaned containers. The containers will be labeled as described in Section 7.5, sealed with tape, and placed in coolers for transport to the laboratory. Samples will be collected in containers and preserved as specified in Section 7.2. Samplers will don clean, disposable latex gloves at each sampling location.

A site specific Health and Safety Plan addressing all field activities will be adhered to during field work. The H&SP identifies roles and responsibilities, record keeping, site control, personal protective equipment, site monitoring, decontamination, and contingency plans.

5.1 Soil Sampling

5.1.1 Surface and Subsurface Soil Sampling. Exact soil sampling locations may be determined in the field based on accessibility, visible signs of potential contamination (e.g., stained soils), and topographical features which may indicate location of hazardous substance disposal (e.g., depressions that may indicate a historic excavation). Soil sample locations will be recorded in the field logbook when sampling is completed. A sketch of the sample location will be entered into the logbook and any physical reference points will be labeled. If possible, distances to the reference points will be given.

Shallow surface and subsurface samples will be collected as grab samples (independent, discrete samples) at three intervals between 5 to 10 feet, 15 to 25 feet, and 40 feet below ground surface (bgs) in Area 2 and 6 inches, 3 and 6 feet bgs in Area 1. All samples will be taken using a hand-operated impact sampler (auger) and contained within 2" X 3" brass sleeves. Below the interval 5-6 feet soil samples will be collected using hydraulic equipment on a direct-push Cone Penetrometer Test Hydropunch (CPT) rig at Areas 2. The CPT collected soil samples are obtained using a push-in probe, on hollow steel rods, with a retractable tip with brass sleeves or stainless steel tubes. Once the desired sample depth is reached, an undisturbed soil sample is collected by retracting the tip and advancing the sampling tube. A new clean sampling tube will be inserted into the soil sampler and used to collect the sample. The sample tubes will be filled to the top, capped with teflon sheets followed by plastic caps to prevent potential contamination to or from the sample, chilled to 4°C upon collection and processed for shipment to the laboratory. Samples to be analyzed for FASP VOCs will be collected first and directly into 2" X 3" brass sample sleeves. If the rig has refusal the location will be moved several feet and tried again.

Excess soil from the sampled interval will be repacked into the hole. Set-aside soil from the interval above the sampled interval will then be repacked into the hole and sealed with bentonite.

5.2 Groundwater Sampling

Groundwater sampling will be conducted in Areas 1 and Area 2. The CPT will be used to collect onsite groundwater samples. Groundwater samples are collected by means of push-in

protected screen perforated samplers on hollow steel rods. The push-in water sampler will be pushed into the ground hydraulically to the desired depth. After it penetrates 1 foot below the target depth, the sampler will be pulled back 1 foot to expose the screen to the water-bearing zone. Groundwater can then be collected, down the hollow rods, using a disposable or decontaminated bailer. Reusable groundwater sampling equipment will be decontaminated in accordance with section 5.4.

At each sample location, all bottles designated for a particular analysis will be filled sequentially before bottles designated for the next analysis are. If a duplicate sample is to be collected at this location, all bottles designated for a particular analysis for both sample designations will be filled sequentially before bottles for another analysis are filled. Groundwater samples will be transferred from the bailer directly into the appropriate sample containers with preservative if required, chilled if required, and processed for shipment to the laboratory. When transferring samples, care will be taken not to touch the bailer discharge device to the sample container.

After the groundwater sample has been collected, the probe rods will be removed by installing a pull cap on the probe rod and using hydraulics to pull upward. The probe borehole will create a conduit through the subsurface layers that will be filled with bentonite after sampling is complete.

5.2.1 Water-Level Measurements. If well heads are accessible, all wells will be sounded for depth to water from top of casing and total well depth prior to purging. An electronic sounder, accurate to the nearest ± 0.01 feet, will be used to measure depth to water in each well. When using an electronic sounder, the probe is lowered down the casing to the top of the water column, the graduated markings on the probe wire or tape are used to measure the depth to water from the surveyed point on the rim of the well casing. Typically, the measuring device emits a constant tone when the probe is submerged in standing water and most electronic water level sounders have a visual indicator consisting of small light bulb or diode that turns on when the probe encounters water. Total well depth will be sounded from the surveyed top of casing by lowering the weighted probe to the bottom of the well. The weighted probe will sink into silt, if present, at the bottom of well screen. Total well depths will be measured by lowering the weighted probe to the bottom of the well and recording the depth to the nearest 0.1 feet.

Water-level sounding equipment will be decontaminated before and after use in each well. Water levels will be measured in wells which have the least amount of known contamination first. Wells with known or suspected contamination will be measured last.

5.2.2 Purging. All wells will be purged prior to sampling. If the well casing volume is known, a minimum of three casing volumes of water will be purged using the bladder pump. Water will be collected into a measured bucket to record the purge volume. Casing volumes will be calculated based on total well depth, standing water level, and casing diameter. One casing volume will be calculated as: $V = \pi d^2 h / 77.01$ where:

V is the volume of one well casing of water (in gallons, 1 ft³ = 7.48 gallon);
d is the inner diameter of the well casing (in inches); and
h is the total depth of water in the well (in feet).

Prior to the start of purging, in the middle of purging each casing volume, and after each well casing volume is purged; water temperature, pH, and specific conductance will be measured using field test meters and the measurements will be recorded. If the well casing volume is not known, water temperature, pH, and specific conductance will be measured every 2.5 minutes after starting water flow. Samples will be collected after these parameters have stabilized; indicating representative formation water is entering the well. Three consecutive measurements which display consistent values of all parameters will be taken prior to sampling. Samples will be collected after three well casing volumes (15 minutes if the purge volume is not known) if parameters have stabilized. Typically, the temperature should not vary by more than $\pm 1^{\circ}\text{C}$, pH by more than 0.2 pH units, and specific conductance by more than 10 percent from reading to reading. No water that has been tested with a field meter probe will be collected for chemical analysis. If these parameters have not stabilized after five casing volumes have been purged (30 minutes if the purge volume is not known), purging will cease, a notation will be recorded in the field logbook and samples will be collected. In accordance with Section 7.1, depth to water measurements, field measurements of parameters, and purge volumes will be recorded in the field logbook.

If a well dewateres during purging and three casing volumes are not purged, that well will be allowed to recharge up to 80 percent of the static water column and dewatered once more. After water levels have recharged to 80 percent of the static water column, groundwater samples will be collected.

All field meters will be calibrated according to manufacturers guidelines and specifications before and after every day of field use. Field meter probes will be decontaminated before and after use at each well.

5.3 EQUIPMENT RINSATE BLANKS

Equipment rinsate blanks will be collected to evaluate field sampling and decontamination procedures by pouring laboratory-grade, certified organic-free water over the decontaminated sampling equipment. One equipment rinsate blank will be collected per matrix each day that sampling-equipment is decontaminated in the field, but not to exceed one per 10 samples. Equipment rinsate blanks will be obtained by passing water through or over the decontaminated sampling devices used that day. The rinsate blanks that are collected will be analyzed using the FASP for FASP volatile organic compounds.

The equipment rinsate blanks will be presented, packaged, and sealed in the manner described in Section 7.5 of this sample plan. A separate CLP sample number and station number will be assigned to each sample, and it will be submitted blind to the laboratory.

5.4 DECONTAMINATION PROCEUDRES

The decontamination procedures that will be followed are in accordance with approved QAPjP procedures. Decontamination of sampling equipment must be conducted consistently as to assure the quality of samples collected. All equipment that comes into contact with potentially contaminated soil or water will be decontaminated. Disposable equipment intended for one time use will not be decontaminated but will be packaged for appropriate disposal. Decontamination will occur prior to and after each use of a piece of equipment. All sampling

devices used, including trowels and augers, will be steam-cleaned or decontaminated according to EPA Region IX recommended procedures.

The following, to be carried out in sequence, is an EPA Region IX recommended procedure for the decontamination of sampling equipment:

- Non-phosphate detergent and tap water wash, using a brush if necessary
- Tap-water rinse
- Pesticide-grade solvent (reagent grade hexane) rinse in a decontamination bucket
- Deionized/distilled water rinse (twice)
- Organic-free water rinse (HPLC) grade

Equipment will be decontaminated in a predesigned area on pallets or plastic sheeting, and clean bulky equipment will be stored on plastic sheeting in uncontaminated areas. Cleaned small equipment will be stored in plastic bags. Materials to be stored more than a few hours will also be covered.

6.0 DISPOSAL OF RESIDUAL MATERIALS

In the process of collecting environmental samples at the D & M site during the PEA/SI, the DTSC site team will generate different types of potentially contaminated investigation-derived wastes (IDW) that include the following:

- Used personal protective equipment (PPE)
- Disposable sampling equipment
- Decontamination fluids
- Soil cuttings from soil borings.
- Purged groundwater and excess groundwater collected for sample container filling.

The EPA's National Contingency Plan (NCP) requires that management of IDW generated during SIs comply with all applicable or relevant and appropriate requirements (ARARs) to the extent practicable. The sampling plan will follow the *Office of Emergency and Remedial Response (OERR) Directive 9345.3-02* (May 1991) which provides the guidance for the management of IDW during SIs. In addition, other legal and practical considerations that may affect the handling of IDW will be considered.

Listed below are the procedures that will be followed for handling the IDW. The procedures have enough flexibility to allow the site investigation team to use its professional judgment on the proper method for the disposal of each type of IDW generated at each sampling location:

- Used PPE and disposable equipment will be double bagged and placed in a municipal refuse dumpster on site. These wastes are not considered hazardous and can be sent to a municipal landfill. Any PPE and disposable equipment that is to be disposed of which can still be reused will be rendered inoperable before disposal in the refuse dumpster.
- Decontamination fluids that will be generated in the PEA/SI will consist of pesticide-grade solvent, HPLC or deionized water, residual contaminants, and water with non-phosphate detergent. The volume and concentration of the decontamination fluid will be sufficiently low to allow disposal at the site. The water (and water with detergent) will be poured onto the ground or into a storm drain. Pesticide-grade solvents will be allowed to evaporate from the decontamination bucket.
- Soil cuttings generated during the subsurface sampling will be placed back into the soil borings from which the samples were obtained. Any remaining soil cuttings will be spread around the sampling location.
- Purged groundwater will be collected in a container and properly disposed of.

7.0 SAMPLE DOCUMENTATION AND SHIPMENT

7.1 Field Logbooks

Field logbooks will document where, when, how, and from whom any vital project information was obtained. Logbook entries will be complete and accurate enough to permit reconstruction of field activities. A separate logbook will be maintained for each project. Logbooks are bound with consecutively numbered pages. Each page will be dated and the time of entry noted in military time. All entries will be legible, written in black ink, and signed by the individual making the entries. Language will be factual, objective, and free of personal opinions or other terminology which might prove inappropriate.

At a minimum, the following information will be recorded during the collection of each sample:

- Sample location and description.
- Site sketch showing sample location and measured distances.
- Sampler's name(s).
- Date and time of sample collection.
- Designation of sample as composite or grab.
- Type of sample (i.e., matrix).
- Type of sampling equipment used.

- On-site measurement data (e.g., temperature, pH, conductivity, etc.).
- Field observations and details important to analysis or integrity of samples (e.g., heavy rains, odors, colors, etc.).
- Preliminary sample descriptions (e.g., for soils: clay loam, very wet; for groundwater: clear water with strong ammonia-like odor).
- Type(s) of preservation used.
- Instrument reading (e.g., OVM, HNU, etc.).
- Lot numbers of the sample containers, sample tag numbers, chain-of-custody form numbers, and chain-of-custody seal numbers.
- Shipping arrangements (overnight air bill number).
- Recipient laboratory(ies).

In addition to the sampling information, the following specifics will also be recorded in the field logbook for each day of sampling:

- Team members and their responsibilities.
- Time of site arrival/entry on site and time of site departure.
- Other personnel on site.
- A summary of any meetings or discussions with any potentially responsible parties (PRPs), representatives of PRPs, or federal, state, or other regulatory agencies.
- Deviations from sampling plans, site safety plans, and QAPjP procedures.
- Changes in personnel and responsibilities as well as reasons for the changes.
- Levels of safety protection.
- Calibration readings for any equipment used and equipment model and serial number.

7.2 Bottles and Preservatives

The number of sample containers, volumes, and materials are listed in the Section 4.0, Request for Analyses tables. The containers are pre-cleaned and will not be rinsed prior to sample collection. Preservatives, if required, will be added by DTSC to the containers prior to shipment of the sample containers to the laboratory. All samples will be co-located in segmented sleeves that can be separated and sent to different labs.

7.2.1 Soil Samples. FASP Volatile Organic Compounds. Soil samples to be analyzed for

sampling
JLS -
water level sampler

1:1 hydrochloric

FASP volatile organic compounds will be collected directly by the sampling equipment into segmented liners by the CPT and 2" X 3" hand auger derived samples. The samples will be chilled to 4°C immediately upon collection. All samples will be co-located in segmented sleeves that can be separated and sent to the different labs. Ten percent of FASP samples will be analyzed for CLP in colocated segmented sample samples.

7.2.2 Groundwater Samples. FASP Volatile Organic Compounds. Samples to be analyzed for FASP volatile organic compounds will be collected in 40-ml glass vials. 1:1 hydrochloric acid (HCl) will be added to the vial prior to sample collection. During purging, the pH will be measured using a pH meter on at least one vial at each sample location to ensure the pH is less than 2. The tested vial will be discarded. If the pH is greater than 2, additional HCl will be added to the sample vials. Another vial will be pH tested to ensure the pH is less than 2. The tested vial will be discarded. The vials will be filled so that no headspace occurs. The samples will be chilled to 4°C immediately upon collection. Three vials of each groundwater sample is required for each laboratory.

7.2.3 Equipment Rinsate Blanks. FASP Volatile Organic Compounds. Equipment rinsate blanks to be analyzed for volatile organic compounds will be collected in 40-ml glass vials. 1:1 hydrochloric acid (HCl) will be added to the vial prior to sample collection. The pH will be measured using a pH meter on at least one vial at each sample location to ensure the pH is less than 2. The tested vial will be discarded. If the pH is greater than 2, additional HCl will be added to the sample vials. Another vial will be pH tested to ensure the pH is less than 2. The tested vial will be discarded. The vials will be filled so that no headspace occurs. The samples will be chilled to 4°C immediately upon collection. Three vials of each equipment rinsate blank are required for each laboratory.

7.3 Sample Traffic Report And Chain-Of-Custody Records, RAP Packing Lists, And QA/QC Summary Forms

Organic and inorganic traffic reports and chain-of-custody records and RAP packing lists are used to document sample collection and shipment to laboratory for analysis. All sample shipments for CLPAS analyses will be accompanied by a traffic report and chain-of-custody record. All sample shipments for RAP analyses will be accompanied by a packing list. Form(s) will be completed and sent with the samples for each laboratory and each shipment (i.e., each day). If multiple coolers are sent to a single laboratory on a single day, form(s) will be completed and sent with the samples for each cooler.

The traffic report and chain-of-custody record or RAP packing list will identify the contents of each shipment and maintain the custodial integrity of the samples. Generally, a sample is considered to be in someone's custody if it is either in someone's physical possession, in someone's view, locked up, or kept in a secured area that is restricted to authorized personnel. Until the samples are shipped, the custody of the samples will be the responsibility of DTSC. The site leader or designee will sign the traffic report and chain-of-custody record or RAP packing list. The site leader or designee will sign the "relinquished by" box and note date, time, and air bill number.

For samples submitted for CLPAS organic analyses, the blue (original) and pink (second) copies of the traffic report and chain-of-custody record will be sent to the EPA Region IX

Quality Assurance Management Section (QAMS) and the white (third) and yellow (fourth) copies will accompany the samples to the laboratory. A copy of the original will be made for the DTSC master files.

A quality assurance/quality control (QA/QC) summary form will be completed for each laboratory and each matrix of the sampling event. The sample numbers for all rinsate samples, reference samples, laboratory QC samples, and duplicates will be documented on this form (see Section 8.0). The original form will be sent to QAMS; a photocopy will be made for the DTSC master files. This form is not sent to the laboratory.

A self-adhesive custody seal will be placed across the lid of each sample. For VOC samples, the seal will be wrapped around the cap. The shipping containers in which samples are stored (usually sturdy picnic cooler or ice chest) will be sealed with self-adhesive custody seals any time they are not in someone's possession or view before shipping. All custody seals will be signed and dated.

The CLP Paperwork Instructions, Appendix G to the guidelines on *Preparation of a U.S. EPA Region 9 Sample Plan for EPA-Lead Superfund Projects*, will be taken to the field as a reference. Corrections on sample paperwork will be made by placing a single line through the mistake and initialing and dating the change. The correct information will be entered above, below, or after the mistake.

7.4 Photographs

Photographs may be taken at sample locations and at other areas of interest on site. They will serve to verify information entered in the field logbook. When a photograph is taken, the following information will be written in the logbook or will be recorded in a separate field photography log:

- Time, date, location, and, if appropriate, weather conditions
- Description of the subject photographed
- Name of person taking the photograph

7.5 Labeling, Packaging, And Shipment

All samples collected will be labeled in a clear and precise way for proper identification in the field and for tracking in the laboratory. The CLP samples will have preassigned, identifiable, and unique numbers. At a minimum, the sample labels will contain the following information: CLP Case or RAP Number, station location, date of collection, analytical parameter(s), and method of preservation. Every sample, including samples collected from a single location but going to separate laboratories, will be assigned a unique sample number.

All sample containers will be placed in a strong-outside shipping container (a steel-belted cooler). The following outlines the packaging procedures that will be followed for all samples.

- 1) When ice is used, secure the drain plug of the cooler with fiberglass tape to prevent melting ice from leaking out of the cooler.
- 2) Line the bottom of the cooler with bubble wrap to prevent breakage during shipment
- 3) Check screw caps for tightness and, if not full, mark the sample volume level of liquid samples on the outside of their sample bottles with indelible ink.
- 4) Secure bottle/container tops with clear tape and custody seal all container tops.
- 5) Affix sample labels onto the containers with clear tape.
- 6) Wrap all glass sample containers in bubble wrap to prevent breakage.
- 7) Seal all sample containers in heavy duty plastic bags. Write the sample numbers on the outside of the plastic bags with indelible ink.

All samples will be placed in coolers with the appropriate traffic report and chain-of-custody forms or RAP packing lists. All forms will be enclosed in a large plastic bag and affixed to the underside of the cooler lid. Empty space in the cooler will be filled with bubble wrap or styrofoam peanuts to prevent movement and breakage during shipment. Vermiculite will also be placed in the cooler to absorb spills if they occur. Ice used to cool samples will be double sealed in two zip lock plastic bags and placed on top and around the samples to chill them to the correct temperature. Each ice chest will be securely taped shut with nylon strapping tape, and custody seals will be affixed to the front, right and back of each cooler.

The EPA Region IX Regional Sample Control Center (RSCC) will be notified daily (phone 415-744-1498) of the sample shipment schedule (Friday shipments must be reported no later than noon) and will be provided with the following information:

- Sampling contractor's name
- The name and location of the site
- Case number or RAP number
- Total number(s) by concentration and matrix of samples shipped to each laboratory
- Carrier, air bill number(s), method of shipment (priority next day)
- Shipment date and when it should be received by lab
- Irregularities or anticipated problems associated with the samples
- Whether additional samples will be shipped or if this is the last shipment.

8.0 QUALITY CONTROL

8.1 Equipment Rinsate Blanks

Equipment rinsate blanks will be prepared to evaluate field sampling and decontamination procedures. The equipment rinsate blanks will be prepared as described in Section 5.3 and be analyzed for low concentration volatile organic compounds. A minimum of one equipment rinsate blank will be collected per matrix per day that sampling equipment is decontaminated in the field. Equipment rinsate blanks will be obtained by passing HPLC-grade water (for organics) and/or deionized water (for inorganics) through or over the decontaminated sampling device.

Blanks will be preserved, packaged, and sealed as appropriate for water samples. A separate CLP sample number and station number will be assigned to each blank, and it will be submitted blind to the laboratory.

8.2 Background (Reference) Samples

The background (reference) samples will be collected in an area which is unlikely to have received contaminants. Background samples are intended to be representative of conditions that exist in the site vicinity. Background samples will be taken in similar geological strata to the other sample locations and at similar depth. Background/upgradient soil samples will be obtained from an offsite location: Area 3.

Background samples will be preserved, packaged, and sealed in the same manner as other samples of the same matrix. A separate CLP sample number and station number will be assigned to each background sample, and it will be submitted blind to the laboratory.

8.3 Duplicate Samples

Duplicate samples are collected simultaneously with a standard sample from the same source under identical conditions into separate sample containers. A duplicate sample is treated independently of its counterpart in order to assess laboratory performance through comparison of the results. At least 10 percent of samples collected per event will be duplicates. At least one duplicate will be collected for each sample matrix. Every analytical group for which a standard sample is analyzed will also be tested for in one or more duplicate samples. Duplicate samples should be collected from areas of known or suspected contamination.

Duplicate soil samples will be collected at sample location Area 2. Duplicate samples will be collected from this location because previous sampling events have detected high levels of contamination there.

As described in Section 5.1, soil samples will not be homogenized. When collecting duplicate soil samples to be analyzed for volatile organic compounds, equivalent portions of sample collected will be collected in segmented collocated liners by the CPT and hand auger systems.

Duplicate groundwater samples will be collected for groundwater sample number GW-4 in Area 2. A duplicate sample will be collected from this location because previous samples from this area exhibit the highest concentrations of contaminants. When collecting duplicate groundwater samples, bottles with the two different sample identification numbers will

D + M Steel

APPENDIX G

ANALYTICAL RESULTS DOCUMENTATION



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX LABORATORY
1337 S. 46TH STREET BLDG 201
RICHMOND, CA 94804-4698

OCT 08 1997

DTSC
copy

MEMORANDUM

SUBJECT: Transmittal of FASP Preliminary Analytical Results for Volatile Organics in Water and Soil from D & M Steel and Price-Pfister

FROM: Liza C. Finley, FASP Coordinator
Field Services Team, PMD-2 *Liza C. Finley*

Through: Brenda Bettencourt, Director
Region 9 Laboratory *B. Bettencourt*

TO: Rachel Loftin, Project Manager
States, Planning and Assessments Office, SFD-5

This memo is to transmit the preliminary data results for the Price-Pfister and D&M Steel sampling effort performed July 24 - 25, 1997 by DTSC. The attached FASP analytical data reports include preliminary results for the volatile organic analyses on soil, water, and rinsate samples performed by FASP in the field. The FASP analytical results are acceptable as definitive data. Complete data packages were requested for these analyses. The data packages will be sent to the Quality Assurance Program for data validation.

The qualifier definitions listed in the Q column of the attached preliminary data charts clarify the analytical concentrations as follows:

U = undetected.

J = estimated value. The amount detected is between the quantitation limit and the detection limit.

D = amount detected is calculated from a diluted sample.

E = amount detected exceeds the calibration range of the instrument

B = analyte was detected in the associated method blank.

Attachment

EPA REGION 9 - FIELD ANALYTICAL SUPPORT PROJECT

SUMMARY OF UNVALIDATED RESULTS

Case Number: 25593
 Site: D&M Steel
 SDG: 2
 Date: 08/13/97

Analysis: FASP Volatiles
 Matrix: Soil

Station Location	SS-2-5		Method Blank						
Sample ID	YY467		VBK01						
Date of Collection	07/24/97		N/A						
Date of Analysis	07/24/97		07/24/97						
Time of Analysis	23:48		22:30						
Percent Moisture	3		0						
Units	ug/Kg		ug/Kg						
Analyte	Result	Q	Result	Q					
Chloromethane	2	U	2	U					
Bromomethane	2	U	2	U					
Vinyl Chloride	2	U	2	U					
Trichlorofluoromethane	2	U	2	U					
Dichlorodifluoromethane	2	U	2	U					
Chloroethane	2	U	2	U					
Methylene Chloride	2	U	2	U					
Carbon Disulfide	2	U	2	U					
1,1-Dichloroethene	2	U	2	U					
1,1-Dichloromethane	2	U	2	U					
cis-1,2-Dichloroethene	2	U	2	U					
trans-1,2-Dichloroethene	2	U	2	U					
Chloroform	2	U	2	U					
1,2-Dichloroethane	2	U	2	U					
1,3-Dichloropropane	2	U	2	U					
2,3-Trichloropropane	2	U	2	U					
1,2-Dibromo-3-chloropropane	2	U	2	U					
2,2-Dibromoethane	2	U	2	U					
1,1,1-Trichloroethane	2	U	2	U					
Carbon Tetrachloride	2	U	2	U					
Bromodichloromethane	2	U	2	U					
2,2-Dichloropropane	2	U	2	U					
cis-1,3-Dichloropropene	2	U	2	U					
1,1-Dichloroethene	2	U	2	U					
Dibromochloromethane	2	U	2	U					
1,1,2-Trichloroethane	2	U	2	U					
Benzene	2	U	2	U					
trans-1,3-Dichloropropene	2	U	2	U					
Bromoform	2	U	2	U					
1,1,2,2-Tetrachloroethane	0.8	U	2	U					
1,1,2,2-Tetrachloroethane	2	U	2	U					
Toluene	2	U	2	U					
Chlorobenzene	2	U	2	U					
o-Dichlorobenzene	2	U	2	U					
Styrene	2	U	2	U					
m-Xylene (-ortho)	2	U	2	U					
Xylene (-para & -meta)	4	U	4	U					
p-Dichlorobenzene	2	U	2	U					
1,4-Dichlorobenzene	2	U	2	U					
2,2-Dichlorobenzene	2	U	2	U					

Q-Laboratory Data Qualifiers

Refer to EPA Region 9 Laboratory Qualifier Definitions

EPA REGION 9 - FIELD ANALYTICAL SUPPORT PROJECT SUMMARY OF UNVALIDATED RESULTS

Case Number: 25593

Site: D&M Steel

SDG: 1

Date: 08/13/97

Analysis:

Matrix:

FASP Volatiles

Water

Station Location	GW-6		GW-4		GW-2		GW-7		GW-5	
Sample ID	N/A		N/A		N/A		YY471		YY474	
Date of Collection	07/23/97		07/23/97		07/23/97		07/24/97		07/24/97	
Date of Analysis	07/26/97		07/26/97		07/25/97		07/25/97		07/26/97	
Time of Analysis	01:26		00:23		00:56		12:26		02:35	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	1	U	1	U	1	U	1	U	1	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	18		1	U	20		1	U	71	J
1,1-Dichloroethane	2.7		1	U	3.3		1	U	1	U
cis-1,2-Dichloroethene	7.9		1	U	8.4		3.1		1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Chloroform	0.8	J	1	U	0.8	J	1	U	1	U
1,2-Dichloroethane	0.6	J	1	U	0.3	J	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
1,1,1-Trichloroethane	25		1	U	24		1	U	590	J
Carbon Tetrachloride	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethene	55	D	1	U	50	D	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Benzene	1	U	1	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	150	J	1	U	140	J	1	U	1000	J
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
Toluene	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
o-Xylene (-ortho)	1	U	1	U	1	U	1	U	1	U
Xylene (-para & -meta)	2	U	2	U	2	U	2	U	2	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U

Q-Laboratory Data Qualifiers

Refer to EPA Region 9 Laboratory Qualifier Definitions

EPA REGION 9 - FIELD ANALYTICAL SUPPORT PROJECT
SUMMARY OF UNVALIDATED RESULTS

Case Number: 25594

Site: Price Pfister (DAM BACKGROUND)

SDG: 1

Date: 08/13/97

Analysis: FASP Volatiles

Matrix: Water

Station Location Sample ID Date of Collection Date of Analysis Time of Analysis Units Analyte	GW-1 N/A 07/22/97 07/25/97 23:50 ug/L Result	Q	GW-16 N/A 07/22/97 07/25/97 03:35 ug/L Result	Q	GW-3 N/A 07/22/97 07/25/97 1:19 ug/L Result	Q	GW-4 N/A 07/22/97 07/25/97 1:53 ug/L Result	Q	GW-15 YY450 07/22/97 07/25/97 13:00 ug/L Result	Q
Chloromethane	1	U	1	U	1	U	1	U	1	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	1	U	2.8		0.7	J	0.7	J	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	34	D
1,1-Dichloroethene	1	U	1	U	150	D	170	D	1	U
1,2-Dichloroethane	1	U	1	U	44	D	48	D	1	U
cis-1,2-Dichloroethene	1	U	1	U	1400	E	1600	E	1	U
trans-1,2-Dichloroethene	1	U	1	U	13		14		1	U
Chloroform	0.6	J	1	U	3.8		3.6		1	U
1,2-Dichloroethane	1	U	1	U	21		22		1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
1,1,1-Trichloroethane	1	U	1	U	480	D	510	D	1	U
Carbon Tetrachloride	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	320	D	340	D	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Benzene	1	U	1	U	18		16		1	U
trans-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	1	U	1	U	250	D	290	D	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
Toluene	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Xylene (-ortho)	1	U	1	U	1	U	1	U	1	U
Xylene (-para & -meta)	2	U	2	U	2	U	2	U	2	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U

Q-Laboratory Data Qualifiers

Refer to EPA Region 9 Laboratory Qualifier Definitions



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

PTSC

Date: 08/21/97

MEMORANDUM

SUBJECT: Transmittal of Partially Reviewed Data

FROM: Dawn Richmond, Chemist *Dawn Richmond*
Quality Assurance Program (QAP), PMD-3

THROUGH: Vance S. Fong, P.E., Manager *Vance S. Fong*
Quality Assurance Program

TO: Rachel Loftin, Remedial Project Manager
States Planning and Assessment, SFD-5

Due to resource constraints and QAP'S need to use our existing resources to address other priority quality assurance issues in addition to data validation, we are providing you the attached partially reviewed data for your use in order to expedite the site characterization and cleanup process.

Attached is a copy of the tabulated analytical data resulting from the following analyses:

SITE:	D & M Steel Site
CASE NO.:	25487
SDG NO.:	N/A
LABORATORY:	FASP
ANALYSIS:	RAS VOA

I have conducted a cursory evaluation of the data package and have found no major problems indicating a need for full data validation. The cursory evaluation includes general oversight by the EPA laboratory Quality Assurance Officer at the Regional laboratory, as well as my evaluation. It should be noted that a method blank was contaminated with small amounts of 1,3-Dichloropropane, 1,2-Dibromoethane, 1,1,2-Trichloroethane, Bromoform, 1,2,3-Trichloropropane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2-Dichlorobenzene, and 1,2-Dibromo-3-chloropropane. All samples were nondetected for those compounds, so no qualification is required. Bromomethane and Chloroethane exceeded the relative percent difference criteria in the initial calibration. P&M-Xylene exceeded the percent difference

criteria in one continuing calibration. This compound would be qualified as estimated (J) or nondetected and estimated (UJ) in all samples. If the data will be used to make a key environmental decision at your site (e.g., assessment of risk posed to public health and the environment), please contact Vance at 4-1492 and request further quality assurance review of the data. Additional review of the data will be performed by QAP personnel using automated data validation software, manual validation, or a combination of the two procedures.

Attachments

cc: Brenda Bettencourt, PMD-2

EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF UNVALIDATED RESULTS

Case Number: 25487
Site: D&M Steel
SDG:
Date: August 12, 1997

Analysis: FASP VOLATILES
Matrix: Low Level Soil

Station Location Sample ID. Date of Collection Units Analyte	SS-1-06 YY269 06/02/97 ug/Kg Result	Q	SS-2-05 YY274 06/02/97 ug/Kg Result	Q	SS-2-08 YY275 06/02/97 ug/Kg Result	Q	Method Blank VBLK01 ug/Kg Result	Q	Method Blank VBLK04 ug/Kg Result	Q
Chloromethane	2	U	2	U	2	U	2	U	2	U
Bromomethane	2	U	2	U	2	U	2	U	2	U
Vinyl Chloride	2	U	2	U	2	U	2	U	2	U
Trichlorofluoromethane	2	U	2	U	2	U	2	U	2	U
Dichlorodifluoromethane	2	U	2	U	2	U	2	U	2	U
Chloroethane	2	U	2	U	2	U	2	U	2	U
Methylene chloride	2	U	2	U	2	U	2	U	2	U
Carbon disulfide	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	2	U	2	U	2	U	2	U	2	U
trans-1,2-Dichloroethene	2	U	2	U	2	U	2	U	2	U
Chloroform	2	U	2	U	2	U	2	U	2	U
1,2-Dichloroethane	2	U	2	U	2	U	2	U	2	U
1,3-Dichloropropane	2	U	2	U	2	U	0.5	J	2	U
1,2,3-Trichloropropane	2	U	2	U	2	U	2		2	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2		2	U
1,2-Dibromoethane	2	U	2	U	2	U	0.7	J	2	U
1,1,1-Trichloroethane	2	U	2	U	2	U	2	U	2	U
Carbon Tetrachloride	2	U	2	U	2	U	2	U	2	U
Bromodichloromethane	2	U	2	U	2	U	2	U	2	U
1,2-Dichloropropane	2	U	2	U	2	U	2	U	2	U
cis-1,3-Dichloropropene	2	U	2	U	2	U	2	U	2	U
Trichloroethene	2	U	2	U	2	U	2	U	2	U
Dibromochloromethane	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	2	U	2	U	2	U	0.5	J	2	U
Benzene	2	U	2	U	2	U	2	U	2	U
trans-1,3-Dichloropropene	2	U	2	U	2	U	2	U	2	U
Bromoform	2	U	2	U	2	U	0.7	J	2	U
Tetrachloroethene	0.5	J	2	U	2	U	2	U	2	U
1,1,2,2-Tetrachloroethane	2	U	2	U	2	U	1	J	2	U
Toluene	2	J	2	U	2	U	2	U	2	U
Chlorobenzene	2	U	2	U	2	U	2	U	2	U
Ethylbenzene	2	U	2	U	2	U	2	U	2	U
Styrene	2	U	2	U	2	U	2	U	2	U
Xylene (-ortho)	0.7	J	2	U	2	U	2	U	2	U
Xylene (-para & -meta)	1	J	2	U	2	U	2	U	2	U
1,3-Dichlorobenzene	2	U	2	U	2	U	0.7	J	2	U
1,4-Dichlorobenzene	2	U	2	U	2	U	0.9	J	2	U
1,2-Dichlorobenzene	2	U	2	U	2	U	0.9	J	2	U

Q-Laboratory Data Qualifiers

Refer to EPA Region 9 Laboratory Qualifier Definitions

EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF UNVALIDATED RESULTS

Case Number: 25487
Site: D&M Steel
SDG:
Date: August 12, 1997

Analysis: FASP VOLATILES
Matrix: Low Level Soil

Sample I.D.	CRQL									
Units	ug/Kg									
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	2									
Bromomethane	2									
Vinyl Chloride	2									
Trichlorofluoromethane	2									
Dichlorodifluoromethane	2									
Chloroethane	2									
Methylene chloride	2									
Carbon disulfide	2									
1,1-Dichloroethene	2									
1,1-Dichloroethane	2									
cis-1,2-Dichloroethene	2									
trans-1,2-Dichloroethene	2									
Chloroform	2									
1,2-Dichloroethane	2									
1,3-Dichloropropane	2									
1,2,3-Trichloropropane	2									
1,2-Dibromo-3-chloropropane	2									
1,2-Dibromoethane	2									
1,1,1-Trichloroethane	2									
Carbon Tetrachloride	2									
Bromodichloromethane	2									
1,2-Dichloropropane	2									
cis-1,3-Dichloropropene	2									
Trichloroethene	2									
Dibromochloromethane	2									
1,1,2-Trichloroethane	2									
Benzene	2									
trans-1,3-Dichloropropene	2									
Bromoform	2									
Tetrachloroethene	2									
1,1,2,2-Tetrachloroethane	2									
Toluene	2									
Chlorobenzene	2									
Ethylbenzene	2									
Styrene	2									
Xylene (-ortho)	2									
Xylene (-para & -meta)	2									
1,3-Dichlorobenzene	2									
1,4-Dichlorobenzene	2									
1,2-Dichlorobenzene	2									

Q-Laboratory Data Qualifiers

Refer to EPA Region 9 Laboratory Qualifier Definitions



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Date: 08/21/97

DTSC
GPR

MEMORANDUM

SUBJECT: Transmittal of Partially Reviewed Data

FROM: Dawn Richmond, Chemist, *Dawn Richmond*
Quality Assurance Program (QAP), PMD-3

THROUGH: Vance S. Fong, P.E., Manager *Vance S. Fong*
Quality Assurance Program

TO: Rachel Loftin, Remedial Project Manager
States Planning and Assessment, SFD-5

Due to resource constraints and QAP'S need to use our existing resources to address other priority quality assurance issues in addition to data validation, we are providing you the attached partially reviewed data for your use in order to expedite the site characterization and cleanup process.

Attached is a copy of the tabulated analytical data resulting from the following analyses:

SITE:	D & M Steel Site
CASE NO.:	25487
SDG NO.:	2
LABORATORY:	FASP
ANALYSIS:	RAS VOA

I have conducted a cursory evaluation of the data package and have found no major problems indicating a need for full data validation. The cursory evaluation includes general oversight by the EPA laboratory Quality Assurance Officer at the Regional laboratory, as well as my evaluation. It should be noted that a method blank was contaminated with small amounts of 1,1,1-Trichloroethane and Tetrachloroethane. Tetrachloroethane in sample YY272 would be qualified as nondetected and estimated (UJ) due to it's presence in the blank. DBCP was below criteria for the relative response factors in all calibration standards. This compound would be qualified as nondetected and estimated (UJ) in all samples. The second dilution for three of the four samples was analyzed outside of the instrument performance check

(BDB) twelve-hour period. The effect on the data is not known. Several surrogate recoveries were below criteria (low bias) and several others were above criteria (high bias). Additionally, 1,1-Dichloroethene and Toluene were outside of the matrix spike criteria. The effect on the data is not know. If the data will be used to make a key environmental decision at your site (e.g., assessment of risk posed to public health and the environment), please contact Vance at 4-1492 and request further quality assurance review of the data. Additional review of the data will be performed by QAP personnel using automated data validation software, manual validation, or a combination of the two procedures.

Attachments

cc: Brenda Bettencourt, PMD-2

EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF UNVALIDATED RESULTS

Case Number: 25487
 Site: D&M Steel
 SDG: 2
 Date: August 12, 1997

Analysis: FASP VOLATILES
 Matrix: Low Level Water

Station Location Sample I.D. Date of Collection Units Analyte	GW 3 YY270 06/02/97 ug/L Result	Q	GW 4 YY271 06/02/97 ug/L Result	Q	GW 2 YY272 06/02/97 ug/L Result	Q	GW 1 YY273 06/02/97 ug/L Result	Q	Method Blank VBLK01 ug/L Result	Q
Chloromethane	1	U	1	U	1	U	1	U	1	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Methylene chloride	1	U	1	U	1		1	U	1	U
Carbon disulfide	1	U	1	U	1	U	0.7	J	1	U
1,1-Dichloroethene	39		46		1	U	1	U	1	U
1,1-Dichloroethane	3		3		1	U	1	U	1	U
cis-1,2-Dichloroethene	2		2		1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Chloroform	2		3		1	U	1	U	1	U
1,2-Dichloroethane	0.6	J	0.6	J	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
1,1,1-Trichloroethane	250		280		1	U	1	U	1	U
Carbon Tetrachloride	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1		1		1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	12		13		1	U	1	U	1	U
Dibromochloromethane	1		0.9	J	1	U	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Benzene	1	U	1	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	290		300		2		1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
Toluene	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethylbenzene	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Xylene (-ortho)	1	U	1	U	1	U	1	U	1	U
Xylene (-para & -meta)	2	U	2	U	2	U	2	U	2	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U

Q-Laboratory Data Qualifiers

Refer to EPA Region 9 Laboratory Qualifier Definitions

EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF UNVALIDATED RESULTS

Case Number: 25487
 Site: D&M Steel
 SDG: 2
 Date: August 12, 1997

Analysis: FASP VOLATILES
 Matrix: Low Level Water

Sample I.D.	Method Blank VBLK02		CRQL							
Units Analyte	ug/L Result	Q	ug/L Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	1	U	1							
Bromomethane	1	U	1							
Vinyl Chloride	1	U	1							
Trichlorofluoromethane	1	U	1							
Dichlorodifluoromethane	1	U	1							
Chloroethane	1	U	1							
Methylene chloride	1	U	1							
Carbon disulfide	1	U	1							
1,1-Dichloroethene	1	U	1							
1,1-Dichloroethane	1	U	1							
cis-1,2-Dichloroethene	1	U	1							
trans-1,2-Dichloroethene	1	U	1							
Chloroform	1	U	1							
1,2-Dichloroethane	1	U	1							
1,3-Dichloropropane	1	U	1							
1,2,3-Trichloropropane	1	U	1							
1,2-Dibromo-3-chloropropane	1	U	1							
1,2-Dibromoethane	1	U	1							
1,1,1-Trichloroethane	0.7	J	1							
Carbon Tetrachloride	1	U	1							
Bromodichloromethane	1	U	1							
1,2-Dichloropropane	1	U	1							
cis-1,3-Dichloropropene	1	U	1							
Trichloroethene	1	U	1							
Dibromochloromethane	1	U	1							
1,1,2-Trichloroethane	1	U	1							
Benzene	1	U	1							
trans-1,3-Dichloropropene	1	U	1							
Bromoform	1	U	1							
Tetrachloroethene	1		1							
1,1,2,2-Tetrachloroethane	1	U	1							
Toluene	1	U	1							
Chlorobenzene	1	U	1							
Ethylbenzene	1	U	1							
Styrene	1	U	1							
Xylene (-ortho)	1	U	1							
Xylene (-para & -meta)	2	U	1							
1,3-Dichlorobenzene	1	U	1							
1,4-Dichlorobenzene	1	U	1							
1,2-Dichlorobenzene	1	U	1							

Q-Laboratory Data Qualifiers

Refer to EPA Region 9 Laboratory Qualifier Definitions

LOCKHEED MARTIN

Lockheed Martin Environmental Services

Environmental Services Assistance Team, Region 9

301 Howard Street, Suite 970, San Francisco, CA 94105-2241

Phone: 415-278-0570 Fax: 415-278-0588

MEMORANDUM

TO: Rachel Loftin
Site Assessment Manager
States Planning & Assessment Office, SFD-5

THROUGH: Rose Fong *Rose*
ESAT Regional Project Officer, USEPA, Region 9
Quality Assurance (QA) Program, PMD-3

FROM: Jack Berges *for*
Team Manager
Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68D60005
Work Assignment No.: 09-97-1-4
Technical Direction No.: 9714068

DATE: February 4, 1998

SUBJECT: Review of Analytical Data

Attached are comments resulting from ESAT Region 9 validation of the following analytical data:

SITE: D&M Steel
SITE ACCOUNT NO.: ZZ
CERCLIS ID NO.: None
CASE NO.: 25593 Memo #01
SDG NO.: YY469

LABORATORY: Clayton Environmental Consultants, Inc.
(CLAYTN)

ANALYSIS: Volatiles and Semivolatiles

SAMPLES: 1 Soil and 5 Water Samples (see Case Summary)

COLLECTION DATE: July 23 and 24, 1997

REVIEWER: Mary Millard/Dina Bailey, ESAT/Lockheed

The comments and qualifications presented in this report have been reviewed and approved by the EPA Work Assignment Manager (WAM) for the ESAT Contract, whose signature appears above.

If there are any questions, please contact Deirdre O'Leary (ESAT/Lockheed) at (415) 278-0582 or Rose Fong (QA Program/EPA) at (415) 744-1534.

Attachment

cc: Cecilia Moore, TPO USEPA Region 5

TPO: []FYI [X]Attention []Action

SAMPLING ISSUES: [X]Yes []No

Data Validation Report

Case No.: 25593 Memo #01
 Site: D&M Steel
 Laboratory: Clayton Environmental Consultants, Inc. (CLAYTN)
 Reviewer: Mary Millard/Dina Bailey, ESAT/Lockheed
 Date: February 4, 1998

I. Case Summary

SAMPLE INFORMATION:

VOA Samples: YY469, YY475, and YY476
 BNA Samples: YY470, YY472, YY473, and YY476
 Concentration and Matrix: Low Level Groundwater and Soil
 Analysis: Volatiles and Semivolatiles
 SOW: OLM03.2
 Collection Date: July 23 and 24, 1997
 Sample Receipt Date: July 28 and 29, 1997
 BNA Extraction Date: July 28 and 30, 1997
 VOA Analysis Date: July 29 and 30, 1997
 BNA Analysis Date: July 30, 31; and August 5, 1997

FIELD QC:

Trip Blanks (TB): None
 Field Blanks (FB): None
 Equipment Blanks (EB): YY473
 Background Samples (BG): None
 Field Duplicates (D1): YY469 and YY475

METHOD BLANKS AND ASSOCIATED SAMPLES:

VELKBF: YY476, YY476MS, YY476MSD, and VHBLK
 VELKCL: YY469, YY469MS, YY469MSD, and YY475
 SBLKS1: YY476, YY476MS, and YY476MSD
 SBLKW1: YY470, YY470MS, YY470MSD, YY472, and YY473

TABLES:

- 1A: Analytical Results with Qualifications
- 1B: Data Qualifier Definitions for Organic Data Review
- 2: Volatiles: Continuing Calibration
- 3: Semivolatiles: Continuing Calibrations

TPO ACTION:

None.

TPO ATTENTION:

(1) Detected results for several volatile analytes are qualified as nondetected and estimated (U,J) due to contamination in storage and method blanks. (2) Several results are estimated (J) due to calibration problems.

SAMPLING ISSUES:

A detected result for phenol in semivolatile sample YY470 is qualified as nondetected and estimated (U,J) due to contamination in equipment blank YY473. Phenol was found in equipment blank YY473 at a concentration of 2 µg/L.

ADDITIONAL COMMENTS:

Sample MYY057, which is listed in the chain-of-custody record for total metals, was changed to sample number YY476 and was analyzed for volatiles and semivolatiles per the Region's instructions.

The tentatively identified compounds (TICs) found in the samples are reported on the Form 1E for the volatile fraction and Form 1Fs for the semivolatile fraction and in the case narrative included in this report. The user should note that the case narrative summarizes TICs which are alkanes. No TICs were detected in samples YY469 and YY475 for the volatile fraction and in samples YY472 and YY473 for the semivolatile fraction.

The percent relative abundance values noted in the raw data for the bromofluorobenzene standard analyzed July 29, 1997 at 0731 slightly differ from the results reported on the corresponding Form 5A. Since both sets of data are acceptable, data quality is not affected.

This report was prepared according to the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analysis, OLM03.2, and the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," February 1994.

II. Validation Summary

	VOA		BNA	
	Acceptable/Comment		Acceptable/Comment	
HOLDING TIMES	[YES]	[]	[YES]	[]
GC/MS TUNE/GC PERFORMANCE	[YES]	[]	[YES]	[]
CALIBRATIONS	[NO]	[C,D]	[NO]	[C,D]
FIELD QC	[YES]	[]	[NO]	[B]
LABORATORY BLANKS	[NO]	[B]	[YES]	[]
SURROGATES	[YES]	[]	[YES]	[]
MATRIX SPIKE/DUPLICATES	[NO]	[E]	[NO]	[E]
INTERNAL STANDARD	[YES]	[]	[YES]	[]
COMPOUND IDENTIFICATION	[YES]	[]	[YES]	[]
COMPOUND QUANTITATION	[NO]	[A]	[NO]	[A]
SYSTEM PERFORMANCE	[YES]	[]	[YES]	[]

III. Validity and Comments

A. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The following detected results are qualified as nondetected and estimated due to laboratory and equipment blank contamination. The results are flagged "U,J" in Table 1A.

- Methylene chloride, acetone, carbon disulfide, and toluene in volatile sample YY476
- Phenol and bis(2-ethylhexyl)phthalate in semivolatile sample YY470

Methylene chloride, acetone, and carbon disulfide were found in method blank VBLKBF and storage blank VHBLK. Toluene was also found in storage blank VHBLK. Phenol and bis(2-ethylhexyl)phthalate were found in equipment blank YY473. (See Table 1A for concentrations.) The results for the samples listed above are considered nondetected and estimated (U,J) and quantitation limits have been increased according to the blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result (U,J). If the sample result is less than the CRQL, the result is reported as nondetected (U,J) at the CRQL.

A laboratory method blank is laboratory reagent water or baked sand for solid matrices analyzed with all reagents, surrogate, and internal standards carried through the same sample preparation and analytical procedure as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

A storage blank is laboratory reagent water stored in a vial in the same area as the field samples. The storage blank is used to determine the level of contamination introduced by the laboratory during sample storage prior to analysis.

An equipment blank is clean water that has been collected as a sample using decontaminated sampling equipment. The intent of an equipment blank is to monitor for contamination introduced by the sampling activity, although any laboratory introduced contamination will also be present.

- C. The detected results and quantitation limits for the following analytes are estimated due to large percent relative standard deviations (%RSDs) in the initial calibrations. The results are flagged "J" in Table 1A.

- Acetone in volatile sample YY476, method blank VBLKBF, and storage blank VHBLK
- 4,6-Dinitro-2-methylphenol in all of the semivolatile samples and method blanks SBLKS1 and SBLKW1

A %RSD of 50.4 was observed for acetone in the volatile initial calibration performed June 25, 1997. A %RSD of 30.8 was observed for 4,6-dinitro-2-methylphenol in the semivolatile initial calibration performed July 28, 1997. These values exceed the $\leq 30.0\%$ QC advisory validation criterion.

The initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of the analytical sequence and of producing a linear calibration curve.

- D. The detected results and quantitation limits for the following analytes are estimated due to large percent differences (%Ds) in the continuing calibrations. The results are flagged "J" in Table 1A.

- Acetone, carbon disulfide, 2-butanone, bromodichloromethane, and 1,2-dichloropropane in volatile sample YY476, method blank VBLKBF, and storage blank VHBLK
- Hexachlorobutadiene, hexachlorocyclopentadiene, and 4-nitrophenol in semivolatile sample YY476 and method blank SBLKS1

- 2,4-Dinitrophenol and 4,6-dinitro-2-methylphenol in semivolatile samples YY470, YY476, and method blank SBLKS1
- 3,3'-Dichlorobenzidine in semivolatile samples YY472, YY473, and method blank SBLKW1
- Dibenz(a,h)anthracene in all of the semivolatile samples and method blanks SBLKS1 and SBLKW1

Percent differences exceeding the $\pm 25.0\%$ QC advisory validation criterion were observed for the analytes listed above in the continuing calibrations performed July 30, 31, and August 5, 1997 (see Tables 2 and 3).

The continuing calibration checks the instrument performance daily and produces the relative response factors for target analytes that are used for quantitation.

- E. The matrix spike and matrix spike duplicate recoveries for several analytes in the QC samples did not meet the criteria for accuracy specified in the SOW. The percent recoveries are presented below.

VOA Analyte	YY469MS %Recovery	YY469MSD %Recovery	QC Limits
Trichloroethene	122	122	71-120
BNA Analyte	YY470MS %Recovery	YY470MSD %Recovery	QC Limits
4-Chloro-3-methylphenol	112	113	23-97
4-Nitrophenol	115	121	10-80
2,4-Dinitrotoluene	112	116	24-96
Pentachlorophenol	121	127	9-103
BNA Analyte	YY476MS %Recovery	YY476MSD %Recovery	QC Limits
Phenol	96	108	26-90
4-Nitrophenol	123	135	11-114
2,4-Dinitrotoluene	100	111	28-89
Pentachlorophenol	108	119	17-109

Results which fall outside acceptance criteria may indicate poor laboratory technique, sample nonhomogeneity, or matrix effects which may interfere with accurate analysis.

Matrix spike sample analysis provides information about the effect of the sample matrix on sample preparation and measurement.

TABLE 1A

Case No.: 25593 Memo #01

Site: D&M Steel

Lab.: Clayton Environmental Consultants, Inc. (CLAYTN)

Reviewer: Mary Millard/Dina Bailey, ESAT/Lockheed

Date: February 4, 1998

Analysis Type: Low Level Groundwater
Samples for Volatiles

Concentration in µg/L

Station Location	GW 6			GW 2			Method Blank			CRQL		
Sample I.D.	YY469 D1			YY475 D1			VBLKCL					
Date of Collection	7/23/97			7/23/97								
Volatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chloromethane	10 U			10 U			10 U			10		
Bromomethane	10 U			10 U			10 U			10		
Vinyl chloride	10 U			10 U			10 U			10		
Chloroethane	10 U			10 U			10 U			10		
Methylene chloride	10 U			10 U			10 U			10		
Acetone	10 U			10 U			10 U			10		
Carbon disulfide	10 U			10 U			10 U			10		
1,1-Dichloroethene	22			24			10 U			10		
1,1-Dichloroethane	3 L J	A		3 L J	A		10 U			10		
1,2-Dichloroethene (total)	8 L J	A		8 L J	A		10 U			10		
Chloroform	10 U			10 U			10 U			10		
1,2-Dichloroethane	10 U			10 U			10 U			10		
2-Butanone	10 U			10 U			10 U			10		
1,1,1-Trichloroethane	25			25			10 U			10		
Carbon tetrachloride	10 U			10 U			10 U			10		
Bromodichloromethane	10 U			10 U			10 U			10		
1,2-Dichloropropane	10 U			10 U			10 U			10		
cis-1,3-Dichloropropene	10 U			10 U			10 U			10		
Trichloroethene	59	E		59			10 U			10		
Dibromochloromethane	10 U			10 U			10 U			10		
1,1,2-Trichloroethane	10 U			10 U			10 U			10		
Benzene	10 U			10 U			10 U			10		
trans-1,3-Dichloropropene	10 U			10 U			10 U			10		
Bromoform	10 U			10 U			10 U			10		
4-Methyl-2-pentanone	10 U			10 U			10 U			10		
2-Hexanone	10 U			10 U			10 U			10		
Tetrachloroethene	120			130			10 U			10		
1,1,2,2-Tetrachloroethane	10 U			10 U			10 U			10		
Toluene	10 U			10 U			10 U			10		
Chlorobenzene	10 U			10 U			10 U			10		
Ethylbenzene	10 U			10 U			10 U			10		
Styrene	10 U			10 U			10 U			10		
Xylene (total)	10 U			10 U			10 U			10		

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank

TB-Trip Blank, BG-Background Sample

TABLE 1A

Case No.: 25593 Memo #01

Site: D&M Steel

Analysis Type: Low Level Soil Sample
for Volatiles

Lab.: Clayton Environmental Consultants, Inc. (CLAYTN)

Reviewer: Mary Millard/Dina Bailey, ESAT/Lockheed

Date: February 4, 1998

Concentration in µg/Kg

Station Location	SS-2-5			Method Blank			Storage Blank			CRQL					
Sample I.D.	YY476			VBLKBF			VHBLK								
Date of Collection	7/24/97														
Volatil Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chloromethane	10 U			10 U			10 U			10					
Bromomethane	10 U			10 U			10 U			10					
Vinyl chloride	10 U			10 U			10 U			10					
Chloroethane	10 U			10 U			10 U			10					
Methylene chloride	10 U	J	B	6 L	J	AB	9 L	J	AB	10					
Acetone	70 U	J	BCD	23	J	BCD	17	J	BCD	10					
Carbon disulfide	10 U	J	BD	2 L	J	ABD	2 L	J	ABD	10					
1,1-Dichloroethene	10 U			10 U			10 U			10					
1,1-Dichloroethane	10 U			10 U			10 U			10					
1,2-Dichloroethene (total)	10 U			10 U			10 U			10					
Chloroform	10 U			10 U			10 U			10					
1,2-Dichloroethane	10 U			10 U			10 U			10					
2-Butanone	10 U	J	D	10 U	J	D	10 U	J	D	10					
1,1,1-Trichloroethane	10 U			10 U			10 U			10					
Carbon tetrachloride	10 U			10 U			10 U			10					
Bromodichloromethane	10 U	J	D	10 U	J	D	10 U	J	D	10					
1,2-Dichloropropane	10 U	J	D	10 U	J	D	10 U	J	D	10					
cis-1,3-Dichloropropene	10 U			10 U			10 U			10					
Trichloroethene	10 U			10 U			10 U			10					
Dibromochloromethane	10 U			10 U			10 U			10					
1,1,2-Trichloroethane	10 U			10 U			10 U			10					
Benzene	10 U			10 U			10 U			10					
trans-1,3-Dichloropropene	10 U			10 U			10 U			10					
Bromoform	10 U			10 U			10 U			10					
4-Methyl-2-pentanone	10 U			10 U			10 U			10					
2-Hexanone	10 U			10 U			10 U			10					
Tetrachloroethene	10 U			10 U			10 U			10					
1,1,2,2-Tetrachloroethane	10 U			2 L	J	A	10 U			10					
Toluene	10 U	J	B	10 U			2 L	J	AB	10					
Chlorobenzene	10 U			10 U			10 U			10					
Ethylbenzene	10 U			10 U			10 U			10					
Styrene	10 U			10 U			10 U			10					
Xylene (total)	10 U			10 U			10 U			10					
Percent Solids	96%			N/A			N/A			N/A					

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank

TB-Trip Blank, BG-Background Sample

ANALYTICAL RESULTS

Page 3 of 6

TABLE 1A

Case No.: 25593 Memo #01

Site: D&M Steel

Lab.: Clayton Environmental Consultants, Inc. (CLAYTN)

Reviewer: Mary Millard/Dina Bailey, ES&T/Lockheed

Date: February 4, 1998

Analysis Type: Low Level Groundwater Samples
for Semivolatiles

Concentration in µg/L

Station Location Sample I.D. Date of Collection	GW 6 YY470 7/23/97			GW 7 YY472 7/23/97			GW 8 YY473 EB 7/23/97			Method Blank SBLKW1			CRQL					
Semivolatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Phenol	10 U	J	B	10 U			2 L	J	AB	10 U			10					
bis(2-Chloroethyl)ether	10 U			10 U			10 U			10 U			10					
2-Chlorophenol	10 U			10 U			10 U			10 U			10					
1,3-Dichlorobenzene	10 U			10 U			10 U			10 U			10					
1,4-Dichlorobenzene	10 U			10 U			10 U			10 U			10					
1,2-Dichlorobenzene	10 U			10 U			10 U			10 U			10					
2-Methylphenol	10 U			10 U			10 U			10 U			10					
2,2'-oxybis(1-Chloropropane)	10 U			10 U			10 U			10 U			10					
4-Methylphenol	10 U			10 U			10 U			10 U			10					
N-Nitroso-di-n-propylamine	10 U			10 U			10 U			10 U			10					
Hexachloroethane	10 U			10 U			10 U			10 U			10					
Nitrobenzene	10 U			10 U			10 U			10 U			10					
Isophorone	10 U			10 U			10 U			10 U			10					
2-Nitrophenol	10 U			10 U			10 U			10 U			10					
2,4-Dimethylphenol	10 U			10 U			10 U			10 U			10					
bis(2-Chloroethoxy)methane	10 U			10 U			10 U			10 U			10					
2,4-Dichlorophenol	10 U			10 U			10 U			10 U			10					
1,2,4-Trichlorobenzene	10 U			10 U			10 U			10 U			10					
Naphthalene	10 U			10 U			10 U			10 U			10					
4-Chloroaniline	10 U			10 U			10 U			10 U			10					
Hexachlorobutadiene	10 U			10 U			10 U			10 U			10					
4-Chloro-3-methylphenol	10 U		E	10 U			10 U			10 U			10					
2-Methylnaphthalene	10 U			10 U			10 U			10 U			10					
Hexachlorocyclopentadiene	10 U			10 U			10 U			10 U			10					
2,4,6-Trichlorophenol	10 U			10 U			10 U			10 U			10					
2,4,5-Trichlorophenol	25 U			25 U			25 U			25 U			25					
2-Chloronaphthalene	10 U			10 U			10 U			10 U			10					
2-Nitroaniline	25 U			25 U			25 U			25 U			25					
Dimethylphthalate	10 U			10 U			10 U			10 U			10					
Acenaphthylene	10 U			10 U			10 U			10 U			10					
2,6-Dinitrotoluene	10 U			10 U			10 U			10 U			10					
3-Nitroaniline	25 U			25 U			25 U			25 U			25					

Station Location Sample I.D. Date of Collection	GW 6 YY470 7/23/97			GW 7 YY472 7/23/97			GW 8 YY473 EB 7/23/97			Method Blank SBLKW1			CRQL					
Semivolatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Acenaphthene	10 U			10 U			10 U			10 U			10					
2,4-Dinitrophenol	25 U	J	D	25 U			25 U			25 U			25					
4-Nitrophenol	25 U		E	25 U			25 U			25 U			25					
Dibenzofuran	10 U			10 U			10 U			10 U			10					
2,4-Dinitrotoluene	10 U		E	10 U			10 U			10 U			10					
Diethylphthalate	10 U			10 U			10 U			10 U			10					
4-Chlorophenyl phenyl ether	10 U			10 U			10 U			10 U			10					
Fluorene	10 U			10 U			10 U			10 U			10					
4-Nitroaniline	25 U			25 U			25 U			25 U			25					
4,6-Dinitro-2-methylphenol	25 U	J	CD	25 U	J	C	25 U	J	C	25 U	J	C	25					
N-Nitrosodiphenylamine	10 U			10 U			10 U			10 U			10					
4-Bromophenyl phenyl ether	10 U			10 U			10 U			10 U			10					
Hexachlorobenzene	10 U			10 U			10 U			10 U			10					
Pentachlorophenol	25 U		E	25 U			25 U			25 U			25					
Phenanthrene	10 U			10 U			10 U			10 U			10					
Anthracene	10 U			10 U			10 U			10 U			10					
Carbazole	10 U			10 U			10 U			10 U			10					
Di-n-butylphthalate	10 U			10 U			10 U			10 U			10					
Fluoranthene	10 U			10 U			10 U			10 U			10					
Pyrene	10 U			10 U			10 U			10 U			10					
Butylbenzylphthalate	10 U			10 U			10 U			10 U			10					
3,3'-Dichlorobenzidine	10 U			10 U	J	D	10 U	J	D	10 U	J	D	10					
Benzo(a)anthracene	10 U			10 U			10 U			10 U			10					
Chrysene	10 U			10 U			10 U			10 U			10					
bis(2-Ethylhexyl)phthalate	10 U	J	B	10 U			1 L	J	AB	10 U			10					
Di-n-octylphthalate	10 U			10 U			10 U			10 U			10					
Benzo(b)fluoranthene	10 U			10 U			10 U			10 U			10					
Benzo(k)fluoranthene	10 U			10 U			10 U			10 U			10					
Benzo(a)pyrene	10 U			10 U			10 U			10 U			10					
Indeno(1,2,3-cd)pyrene	10 U			10 U			10 U			10 U			10					
Dibenz(a,h)anthracene	10 U	J	D	10 U	J	D	10 U	J	D	10 U	J	D	10					
Benzo(g,h,i)perylene	10 U			10 U			10 U			10 U			10					

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Site: D&M Steel

TABLE 1A

Lab.: Clayton Environmental Consultants, Inc. (CLAYTN)

Reviewer: Mary Millard/Dina Bailey, ESAT/Lockheed

Analysis Type: Low Level Soil Sample
for Semivolatiles

Date: February 4, 1998

Concentration in µg/Kg

Station Location	SS-2-5			Method Blank			CRQL								
Sample I.D.	YY476			SBLKS1											
Date of Collection	7/24/97														
Semivolatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Phenol	340 U		E	330 U			330								
bis(2-Chloroethyl)ether	340 U			330 U			330								
2-Chlorophenol	340 U			330 U			330								
1,3-Dichlorobenzene	340 U			330 U			330								
1,4-Dichlorobenzene	340 U			330 U			330								
1,2-Dichlorobenzene	340 U			330 U			330								
2-Methylphenol	340 U			330 U			330								
2,2'-oxybis(1-Chloropropane)	340 U			330 U			330								
4-Methylphenol	340 U			330 U			330								
N-Nitroso-di-n-propylamine	340 U			330 U			330								
Hexachloroethane	340 U			330 U			330								
Nitrobenzene	340 U			330 U			330								
Isophorone	340 U			330 U			330								
2-Nitrophenol	340 U			330 U			330								
2,4-Dimethylphenol	340 U			330 U			330								
bis(2-Chloroethoxy)methane	340 U			330 U			330								
2,4-Dichlorophenol	340 U			330 U			330								
1,2,4-Trichlorobenzene	340 U			330 U			330								
Naphthalene	340 U			330 U			330								
4-Chloroaniline	340 U			330 U			330								
Hexachlorobutadiene	340 U	J	D	330 U	J	D	330								
4-Chloro-3-methylphenol	340 U			330 U			330								
2-Methylnaphthalene	340 U			330 U			330								
Hexachlorocyclopentadiene	340 U	J	D	330 U	J	D	330								
2,4,6-Trichlorophenol	340 U			330 U			330								
2,4,5-Trichlorophenol	860 U			830 U			830								
2-Chloronaphthalene	340 U			330 U			330								
2-Nitroaniline	860 U			830 U			830								
Dimethylphthalate	340 U			330 U			330								
Acenaphthylene	340 U			330 U			330								
2,6-Dinitrotoluene	340 U			330 U			330								
3-Nitroaniline	860 U			830 U			830								

Station Location Sample I.D. Date of Collection	SS-2-5 YY476 7/24/97			Method Blank SBLKSI			CRQL											
Semivolatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Acenaphthene	340 U			330 U			330											
2,4-Dinitrophenol	860 U	J	D	830 U	J	D	830											
4-Nitrophenol	860 U	J	DE	830 U	J	D	830											
Dibenzofuran	340 U			330 U			330											
2,4-Dinitrotoluene	340 U		E	330 U			330											
Diethylphthalate	340 U			330 U			330											
4-Chlorophenyl phenyl ether	340 U			330 U			330											
Fluorene	340 U			330 U			330											
4-Nitroaniline	860 U			830 U			830											
4,6-Dinitro-2-methylphenol	860 U	J	CD	830 U	J	CD	830											
N-Nitrosodiphenylamine	340 U			330 U			330											
4-Bromophenyl phenyl ether	340 U			330 U			330											
Hexachlorobenzene	340 U			330 U			330											
Pentachlorophenol	860 U		E	830 U			830											
Phenanthrene	340 U			330 U			330											
Anthracene	340 U			330 U			330											
Carbazole	340 U			330 U			330											
Di-n-butylphthalate	340 U			330 U			330											
Fluoranthene	340 U			330 U			330											
Pyrene	340 U			330 U			330											
Butylbenzylphthalate	340 U			330 U			330											
3,3'-Dichlorobenzidine	340 U			330 U			330											
Benzo(a)anthracene	340 U			330 U			330											
Chrysene	340 U			330 U			330											
bis(2-Ethylhexyl)phthalate	340 U			330 U			330											
Di-n-octylphthalate	340 U			330 U			330											
Benzo(b)fluoranthene	340 U			330 U			330											
Benzo(k)fluoranthene	340 U			330 U			330											
Benzo(a)pyrene	340 U			330 U			330											
Indeno(1,2,3-cd)pyrene	340 U			330 U			330											
Dibenz(a,h)anthracene	340 U	J	D	330 U	J	D	330											
Benzo(g,h,i)perylene	340 U			330 U			330											
Percent Solids	96 %			N/A			N/A											

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," February 1994.

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

TABLE 2
Volatiles: Continuing Calibration

Case: 25593 Memo #01
Site: D&M Steel
Laboratory: Clayton Environmental Consultants, Inc. (CLAYTN)
Reviewer: Mary Millard/Dina Bailey, ESAT/Lockheed
Date: February 4, 1998

PERCENT DIFFERENCES

Analysis date:	%D 7/30/97
Analysis time:	0859
GC/MS I.D.:	HP-2B
<u>Analyte</u>	<u>Cont.</u>
Acetone	-37.8
Carbon disulfide	+156
2-Butanone	-27.0
Bromodichloromethane	+35.8
1,2-Dichloropropane	+26.3

ASSOCIATED SAMPLE AND BLANKS

Cont. 7/30/97: YY476, VBLKBF, VHBLK

TABLE 3
Semivolatiles: Continuing Calibrations

Case: 25593 Memo #01
Site: D&M Steel
Laboratory: Clayton Environmental Consultants, Inc. (CLAYTN)
Reviewer: Mary Millard/Dina Bailey, ESAT/Lockheed
Date: February 4, 1998

PERCENT DIFFERENCES

	%D 7/30/97	%D 7/31/97	%D 8/05/97
Analysis date:	1142	0823	0807
Analysis time:	HP-5E	HP-5E	HP-5E
GC/MS I.D.:	<u>Cont.</u>	<u>Cont.</u>	<u>Cont.</u>
<u>Analyte</u>			
Hexachlorobutadiene	----	----	+27.3
Hexachlorocyclopentadiene	----	----	+41.9
2,4-Dinitrophenol	----	+65.1	+85.3
4-Nitrophenol	----	----	+26.1
4,6-Dinitro-2-methylphenol	----	+27.6	+35.4
3,3'-Dichlorobenzidine	+26.2	----	----
Dibenz(a,h)anthracene	+30.1	+31.1	+29.2

ASSOCIATED SAMPLES AND METHOD BLANKS

Cont. 7/30/97: YY472, YY473, SBLKW1
Cont. 7/31/97: YY470
Cont. 8/05/97: YY476, SBLKS1

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

YY476

Lab Name: CLAYTON ENVIRONMENTAL

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No.: 25593

SAS No.:

SDG No.: YY469

Matrix: (soil/water) SOIL

Lab Sample ID: 52419-007

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B6630

Level: (low/med) LOW

Date Received: 7/29/97

% Moisture: not dec. 4

Date Analyzed: 7/30/97

GC Column: DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 0

(uL)

Soil Aliquot Volume: 0

(uL)

Number TICs Found: 3

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 62016-28-8	Octane, 2,2,6-trimethyl-	15.83	30.	JN
2. 556-67-2	Cyclotetrasiloxane, octameth	16.48	6.	JN
3. 62237-97-2	Decane, 2,2,6-trimethyl-	17.35	6.	JN
4. 629-62-9	Pentadecane	17.77	13.	JN
5. 541-62-6	Cyclopentasiloxane, decameth	20.09	11.	JNB
6.				
7.				
8.				
9.				
10.				
11.				
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30.				

2. and 5. Column bleed

Hand. ESAT 1/22/98

0046

FORM I VOA-TIC

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

YY470

Lab Name: CLAYTON ENVIRONMENTAL

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No.: 25593

SAS No.:

SDG No.: YY469

Matrix: (soil/water) WATER

Lab Sample ID: 52419-002

Sample wt/vol: 1000.0 (g/ml) ML

Lab File ID: E5786

Level: (low/med) LOW

Date Received: 7/28/97

% Moisture: decanted: (Y/N)

Date Extracted: 7/28/97

Concentrated Extract Volume: 1000.0 (uL)

Date Analyzed: 7/31/97

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs Found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 286-20-4	2 -Oxabicyclo[4.1.0]heptane	6.56	3.	JN
2.	Unknown	12.39	3.	J
3. 105-60-2	2H -Azepin- 2 one, hexahydro-	13.08	24.	JN
4. 52078-56-5	1H -Tricosene	20.22	2.	JN
5. 7206-25-9	9 -Octadecene, (E) + unknown	21.74	3.	JN
6. 19047-85-9	Phosphonic acid, dioctadecyl	23.11	2.	JN
7.				
8.				
9.				
10.				
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27.				
28.				
29.				
30.				

HAB, ESAT 1/22/98

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

YY476

Lab Name: CLAYTON ENVIRONMENTAL

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No.: 25593

SAS No.:

SDG No.: YY469

Matrix: (soil/water) SOIL

Lab Sample ID: 52419-007

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: E5859

Level: (low/med) LOW

Date Received: 7/29/97

% Moisture: 4 decanted: (Y/N) N

Date Extracted: 7/30/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 8/05/97

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.7

Number TICs Found: ²
~~12~~

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 141-78-6	Acetic acid, ethyl ester	5.07	120.	JNB
2. 10574-37-5	2-Pentene, 2,3-dimethyl-	5.29	150.	JN
3.	Unknown	5.65	290.	JB
4. 123-42-2	2-Pentanone, 4-hydroxy-4-met	6.06	7300.	JNAB
5. 286-20-4	7-Oxabicyclo[4.1.0]heptane	6.43	680.	JNB
6. 822-67-3	2-Cyclohexen-1-ol	6.80	180.	JNB
7.	Unknown	7.14	150.	J
8.	Unknown	7.24	650.	J
9. 930-68-7	2-Cyclohexen-1-one	7.44	170.	JNB
10.	trans-3-Hexene-2,5-dione	7.48	1400.	JB
11. 6714-00-7	5-Hepten-2-one	7.60	98.	JN
12. 5343-96-4	2-Butanol, 3-methyl-, acetate	8.27	430.	JNB
13.				
14.				
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1, 3, 9, 10, and 12. Found in the method blank

HAB, ESAT 11/22/98

GC Columns

<u>Instrument ID</u>	<u>Column Serial #</u>	<u>Brand Name</u>	<u>Internal Diameter (mm)</u>	<u>Length (Meters)</u>	<u>Coating Material</u>	<u>Film Thickness (µm)</u>
----------------------	------------------------	-------------------	-------------------------------	------------------------	-------------------------	----------------------------

VOA

3-C	5688113	J & W Scientific	0.53	75	DB-624	3
-----	---------	------------------	------	----	--------	---

BNA

5E	90230	Restek XT1-5	0.25	30	5% Ph-Me-silicone	1
----	-------	--------------	------	----	-------------------	---

VOA Traps

<u>Trap Name</u>	<u>Packing Material/Brand Name</u>	<u>Composition</u>	<u>Amount/Length (cm)</u>
Supelco Purge & Trap K	Supelco	Carbopak B	10 cm
Vocarb 3000		Carboxen 1000	6 cm
		Carboxen 1001	1 cm

Tentatively Identified Alkanes

<u>EPA Sample No.</u>	<u>Alkane Name or Series</u>	<u>CAS #</u>	<u>Estimated Concentration</u>
YY470	alkane hydrocarbons	N/A	0 µg/L
YY472	alkane hydrocarbons	N/A	6 µg/L
YY473	alkane hydrocarbons	N/A	0 µg/L
SBLKW1	alkane hydrocarbons	N/A	0 µg/L
YY476	alkane hydrocarbons	N/A	84 µg/kg
SBLKS1	alkane hydrocarbons	N/A	0 µg/kg

16

3
11/14/98
11/22/98

TPO: [] FYI [X] Attention [] Action

Region 9

ORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 25593 Memo #01 LABORATORY CLAYTN
 SDG NO. YY469 SITE NAME D&M Steel
 SOW OLM03.2 REVIEW COMPLETION DATE February 4, 1998
 REVIEWER [] ESD [X] ESAT REVIEWER'S NAME M. Millard/D. Bailey
 NO. OF SAMPLES 5 WATER 1 SOIL OTHER

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES/PRESERVATION	<u>0</u>	<u>0</u>	<u> </u>	<u> </u>
2. GC/MS PERFORMANCE	<u>0</u>	<u>0</u>	<u> </u>	<u> </u>
3. INITIAL CALIBRATIONS	<u>X</u>	<u>X</u>	<u> </u>	<u> </u>
4. CONTINUING CALIBRATIONS	<u>X</u>	<u>X</u>	<u> </u>	<u> </u>
5. FIELD QC	<u>0</u>	<u>X</u>	<u> </u>	<u> </u>
6. LABORATORY BLANKS	<u>X</u>	<u>0</u>	<u> </u>	<u> </u>
7. SURROGATES	<u>0</u>	<u>0</u>	<u> </u>	<u> </u>
8. MATRIX SPIKE/DUPLICATES	<u>0</u>	<u>0</u>	<u> </u>	<u> </u>
9. REGIONAL QC	<u>N/A</u>	<u>N/A</u>	<u> </u>	<u> </u>
10. INTERNAL STANDARDS	<u>0</u>	<u>0</u>	<u> </u>	<u> </u>
11. COMPOUND IDENTIFICATION	<u>0</u>	<u>0</u>	<u> </u>	<u> </u>
12. COMPOUND QUANTITATION	<u>0</u>	<u>0</u>	<u> </u>	<u> </u>
13. SYSTEM PERFORMANCE	<u>0</u>	<u>0</u>	<u> </u>	<u> </u>
14. OVERALL ASSESSMENT	<u>X</u>	<u>X</u>	<u> </u>	<u> </u>

O = Data have no problems or problems that do not affect data quality.
 X = Data are qualified due to minor problems.
 M = Data are qualified due to major problems.
 Z = Data are unacceptable.
 N/A = Not Applicable

TPO ACTION: None.

TPO ATTENTION: (1) Detected results for several volatile analytes are qualified as nondetected and estimated (U,J) due to contamination in storage and method blanks. (2) Several results are estimated (J) due to calibration problems.

AREAS OF CONCERN: None.

In Reference to Case No(s) .:
25593 Memo #01

REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log #1

Date of Call: _____

Laboratory Name: Clayton Environmental Consultants,
Inc. (CLAYTN)

Lab Contact: Kelly A. Kolb/FAX 810-344-2654
Phone # (810) 344-1770

Region: 9

Regional Contact: Steve Remaley, TPO USEPA Region 9

ESAT Reviewer: M. Millard & M. May, 1/15/98

Call Initiated By: _____ Laboratory X Region

In reference to data for the following sample(s):

SDG No. YY469

Summary of Questions/Issues:

The following item was noted in the validation of sample delivery group (SDG) YY469. Please respond within seven days per Section 2.2 of Exhibit B of the OLM03.2 Statement of Work. Send response and resubmissions to Lockheed Martin Environmental Services, Environmental Services Assistance Team, Region 9, 301 Howard Street, Suite 970, San Francisco, CA 94105-2241, Fax: 415-278-0588.

- (1) Please verify which compounds are actually quantitated using perylene-d12 as the internal standard. Refer to pages 449 through 451.

Summary of Resolution:

- (1) The laboratory stated "Di-n-octylphthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene were quantitated using perylene-d12 as the internal standard. This is in accordance with the EPA SOW OLM03.2, page D-62 SVOA.

Regional Contact Signature

January 22, 1998
Date of Resolution

Distribution: (Original) ESAT, (1) Lab Copy, (2) Region Copy, (3) CLASS Copy

In Reference to Case No(s) .:
 25593 Memo #01

REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log #1

Date of Call: _____
Laboratory Name: Clayton Environmental Consultants,
Inc. (CLAYTN)
Lab Contact: Kelly A. Kolb/FAX 810-344-2654
Phone # (810) 344-1770
Region: 9
Regional Contact: Steve Remaley, TPO USEPA Region 9
ESAT Reviewer: M. Millard & M. May, 1/15/98
Call Initiated By: _____ Laboratory X Region

In reference to data for the following sample(s):
SDG No. YY469

Summary of Questions/Issues:

The following item was noted in the validation of sample delivery group (SDG) YY469. Please respond within seven days per Section 2.2 of Exhibit B of the OLM03.2 Statement of Work. Send response and resubmissions to Lockheed Martin Environmental Services, Environmental Services Assistance Team, Region 9, 301 Howard Street, Suite 970, San Francisco, CA 94105-2241, Fax: 415-278-0588.

- (1) Please verify which compounds are actually quantitated using perylene-d12 as the internal standard. Refer to pages 449 through 451.

Summary of Resolution:

- (1) The laboratory stated "Di-n-octylphthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene were quantitated using perylene-d12 as the internal standard. This is in accordance with the EPA SOW OLM03.2, page D-62 SVOA.

Regional Contact Signature

January 22, 1998
Date of Resolution

Distribution: (Original) ESAT, (1) Lab Copy, (2) Region Copy, (3) CLASS Copy

LOCKHEED MARTIN

Lockheed Martin Environmental Services

Environmental Services Assistance Team, Region 8
301 Howard Street, Suite 970, San Francisco, CA 94105-2241
Phone: 415-278-0570 Fax: 415-278-0588

gts C-58

MEMORANDUM

TO: Rachel Loftin
Site Assessment Manager
States Planning & Assessment Office, SFD-5

THROUGH: Rose Fong *Rose*
ESAT Regional Project Officer
Quality Assurance (QA) Program, PMD-3

FROM: Deirdre O'Leary *DL*
Acting Data Validation Task Lead
Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68D60005
Work Assignment No.: 09-97-1-4
Technical Direction No.: 9714068

Date: September 4, 1997

SUBJECT: Submission of Unvalidated Data for D&M Steel

Table 1A, which contains the unvalidated data for D&M Steel, Case 25593 Memo #01, is being forwarded to you via Lotus Notes in Lotus 1-2-3 for Windows®, Release 4.

<u>Filename</u>	<u>Memo #</u>	<u>SDG</u>	<u>Analyses</u>
25593V1U.WK4	01	YY469	Volatiles
25593S1U.WK4	01	YY469	Semivolatiles

If you have any questions, please contact Deirdre O'Leary (ESAT/Lockheed) at (415) 278-0582 or Rose Fong (QA Program/EPA) at (415) 744-1534.

TABLE 1A

Case No.: 25593 Memo #01

Site: D&M Steel

Lab.: Clayton Environmental Consultants, Inc. (CLAYTN)

Reviewer: Lorena Herrera, ESAT/Lockheed

Date: September 4, 1997

**Analysis Type: Low Level Groundwater
 Samples for Volatiles**

UNVALIDATED DATA
Concentration in µg/L

[illegible]

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank

TB-Trip Blank, BG-Background Sample

TABLE 1A

Case No.: 25593 Memo #01

Site: D&M Steel

Lab.: Clayton Environmental Consultants, Inc. (CLAYTH)

Reviewer: Lorena Herrera, ESAT/Lockheed

Date: September 4, 1997

**Analysis Type: Low Level Soil Sample
 for Volatiles**

UNVALIDATED DATA

Concentration in $\mu\text{g/Kg}$ [illegible]

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank

TB-Trip Blank, BG-Background Sample

ANALYTICAL RESULTS

Page 3 of 6

TABLE 1A

Case No.: 25593 Memo #01

Site: D&M Steel

Lab.: Clayton Environmental Consultants, Inc. (CLAYTM)

Reviewer: Lorena Herrera, ESAT/Lockheed

Date: September 4, 1997

UNVALIDATED DATA

Concentration in µg/L

Analysis Type: Low Level Groundwater Samples
for Semivolatiles

Station Location	GW 6			GW 7			GW 8			Method Blank			CRQL					
Sample I.D.	YY470			YY472			YY473 EB			SBLKW1								
Date of Collection	7/23/97			7/23/97			7/23/97											
Semivolatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Phenol	3 L			10 U			2 L			10 U			10					
bis(2-Chloroethyl)ether	10 U			10 U			10 U			10 U			10					
2-Chlorophenol	10 U			10 U			10 U			10 U			10					
1,3-Dichlorobenzene	10 U			10 U			10 U			10 U			10					
1,4-Dichlorobenzene	10 U			10 U			10 U			10 U			10					
1,2-Dichlorobenzene	10 U			10 U			10 U			10 U			10					
2-Methylphenol	10 U			10 U			10 U			10 U			10					
2,2'-oxybis(1-Chloropropane)	10 U			10 U			10 U			10 U			10					
4-Methylphenol	10 U			10 U			10 U			10 U			10					
N-Nitroso-di-n-propylamine	10 U			10 U			10 U			10 U			10					
Hexachloroethane	10 U			10 U			10 U			10 U			10					
Nitrobenzene	10 U			10 U			10 U			10 U			10					
Isophorone	10 U			10 U			10 U			10 U			10					
2-Nitrophenol	10 U			10 U			10 U			10 U			10					
2,4-Dimethylphenol	10 U			10 U			10 U			10 U			10					
bis(2-Chloroethoxy)methane	10 U			10 U			10 U			10 U			10					
2,4-Dichlorophenol	10 U			10 U			10 U			10 U			10					
1,2,4-Trichlorobenzene	10 U			10 U			10 U			10 U			10					
Naphthalene	10 U			10 U			10 U			10 U			10					
4-Chloroaniline	10 U			10 U			10 U			10 U			10					
Hexachlorobutadiene	10 U			10 U			10 U			10 U			10					
4-Chloro-3-methylphenol	10 U			10 U			10 U			10 U			10					
2-Methylnaphthalene	10 U			10 U			10 U			10 U			10					
Hexachlorocyclopentadiene	10 U			10 U			10 U			10 U			10					
2,4,6-Trichlorophenol	10 U			10 U			10 U			10 U			10					
2,4,5-Trichlorophenol	25 U			25 U			25 U			25 U			25					
2-Chloronaphthalene	10 U			10 U			10 U			10 U			10					
2-Nitroaniline	25 U			25 U			25 U			25 U			25					
Dimethylphthalate	10 U			10 U			10 U			10 U			10					
Acenaphthylene	10 U			10 U			10 U			10 U			10					
2,6-Dinitrotoluene	10 U			10 U			10 U			10 U			10					
3-Nitroaniline	25 U			25 U			25 U			25 U			25					

Station Location Sample I.D. Date of Collection	GW 6 YY470 7/23/97			GW 7 YY472 7/23/97			GW 8 YY473 EB 7/23/97			Method Blank SBLKW1			CRQL					
Semivolatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Acenaphthene	10 U			10 U			10 U			10 U			10					
2,4-Dinitrophenol	25 U			25 U			25 U			25 U			25					
4-Nitrophenol	25 U			25 U			25 U			25 U			25					
Dibenzofuran	10 U			10 U			10 U			10 U			10					
2,4-Dinitrotoluene	10 U			10 U			10 U			10 U			10					
Diethylphthalate	10 U			10 U			10 U			10 U			10					
4-Chlorophenyl phenyl ether	10 U			10 U			10 U			10 U			10					
Fluorene	10 U			10 U			10 U			10 U			10					
4-Nitroaniline	25 U			25 U			25 U			25 U			25					
4,6-Dinitro-2-methylphenol	25 U			25 U			25 U			25 U			25					
N-Nitrosodiphenylamine	10 U			10 U			10 U			10 U			10					
4-Bromophenyl phenyl ether	10 U			10 U			10 U			10 U			10					
Hexachlorobenzene	10 U			10 U			10 U			10 U			10					
Pentachlorophenol	25 U			25 U			25 U			25 U			25					
Phenanthrene	10 U			10 U			10 U			10 U			10					
Anthracene	10 U			10 U			10 U			10 U			10					
Carbazole	10 U			10 U			10 U			10 U			10					
Di-n-butylphthalate	10 U			10 U			10 U			10 U			10					
Fluoranthene	10 U			10 U			10 U			10 U			10					
Pyrene	10 U			10 U			10 U			10 U			10					
Butylbenzylphthalate	10 U			10 U			10 U			10 U			10					
3,3'-Dichlorobenzidine	10 U			10 U			10 U			10 U			10					
Benzo(a)anthracene	10 U			10 U			10 U			10 U			10					
Chrysene	10 U			10 U			10 U			10 U			10					
bis(2-Ethylhexyl)phthalate	8 L			10 U			1 L			10 U			10					
Di-n-octylphthalate	10 U			10 U			10 U			10 U			10					
Benzo(b)fluoranthene	10 U			10 U			10 U			10 U			10					
Benzo(k)fluoranthene	10 U			10 U			10 U			10 U			10					
Benzo(a)pyrene	10 U			10 U			10 U			10 U			10					
Indeno(1,2,3-cd)pyrene	10 U			10 U			10 U			10 U			10					
Dibenz(a,h)anthracene	10 U			10 U			10 U			10 U			10					
Benzo(g,h,i)perylene	10 U			10 U			10 U			10 U			10					

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Case No. : 25593 Memo #01

Site: D&M Steel

Lab.: Clayton Environmental Consultants, Inc. (CLAYTN)

Reviewer: Lorena Herrera, ESAT/Lockheed

Date: September 4, 1997

TABLE 1A

UNVALIDATED DATA

Concentration in $\mu\text{g/Kg}$

**Analysis Type: Low Level Soil Sample
for Semivolatiles**

[illegible]

Station Location Sample I.D. Date of Collection	SS-2-5 YY476 7/24/97			Method Blank SBLKSI			CRQL											
Semivolatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Acenaphthene	340 U			330 U			330											
2,4-Dinitrophenol	860 U			830 U			830											
4-Nitrophenol	860 U			830 U			830											
Dibenzofuran	340 U			330 U			330											
2,4-Dinitrotoluene	340 U			330 U			330											
Diethylphthalate	340 U			330 U			330											
4-Chlorophenyl phenyl ether	340 U			330 U			330											
Fluorene	340 U			330 U			330											
4-Nitroaniline	860 U			830 U			830											
4,6-Dinitro-2-methylphenol	860 U			830 U			830											
N-Nitrosodiphenylamine	340 U			330 U			330											
4-Bromophenyl phenyl ether	340 U			330 U			330											
Hexachlorobenzene	340 U			330 U			330											
Pentachlorophenol	860 U			830 U			830											
Phenanthrene	340 U			330 U			330											
Anthracene	340 U			330 U			330											
Carbazole	340 U			330 U			330											
Di-n-butylphthalate	340 U			330 U			330											
Fluoranthene	340 U			330 U			330											
Pyrene	340 U			330 U			330											
Butylbenzylphthalate	340 U			330 U			330											
3,3'-Dichlorobenzidine	340 U			330 U			330											
Benzo(a)anthracene	340 U			330 U			330											
Chrysene	340 U			330 U			330											
bis(2-Ethylhexyl)phthalate	340 U			330 U			330											
Di-n-octylphthalate	340 U			330 U			330											
Benzo(b)fluoranthene	340 U			330 U			330											
Benzo(k)fluoranthene	340 U			330 U			330											
Benzo(a)pyrene	340 U			330 U			330											
Indeno(1,2,3-cd)pyrene	340 U			330 U			330											
Dibenz(a,h)anthracene	340 U			330 U			330											
Benzo(g,h,i)perylene	340 U			330 U			330											
Percent Solids	96 %			N/A			N/A											

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Table 1B

Unvalidated Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value	If the result is a value greater than or equal to the detection limit, report the value.
U	Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit).
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g., 10J). If limit of detection is 10 µg/L and a concentration of 3 µg/L is calculated, reported as 3J.
L	Results have been qualified because they fall between the Contract Required Quantitation Limit (CRQL) and the Instrument Detection Limit (IDL). These are results for compounds which are present, but are quantitatively unreliable due to the uncertainty of analytical precision close to the detection limit. (In Region 9, this qualifier replaces the "B" qualifier used with inorganic results and with organic results, it represents results below the CRQL).
C	This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥ 10 ng/µL in the final extract should be confirmed by GC/MS.
B	This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.
E	Value exceeds linear range of instruments calibration.
Other	Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Lockheed Martin Environmental Services

Environmental Services Assistance Team, Region 9
301 Howard Street, Suite 970, San Francisco, CA 94105-2241
Phone: 415-278-0570 Fax: 415-278-0588

MEMORANDUM

Final 9/30/97

TO: Rachel Loftin
Site Assessment Manager
States Planning & Assessment Office, SFD-5

THROUGH: Rose Fong *Rose*
ESAT Regional Project Officer
Quality Assurance (QA) Program, PMD-3

FROM: Jack Berges *for*
Team Manager
Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68D60005
Work Assignment No.: 9-97-1-4
Technical Direction No.: 9714050

DATE: September 24, 1997

SUBJECT: Review of Analytical Data

There is an unresolved telephone record log (TRL) in the report, but as data quality is not affected, the report is being submitted. Attached are comments resulting from ESAT Region 9 validation of the following analytical data:

SITE: D&M Steel
SITE ACCOUNT NO.: ZZ
CERCLIS ID NO.: None
CASE NO.: 25487 Memo #01
SDG NO.: YY271

LABORATORY: Clayton Environmental Consultants, Inc. (CLAYTN)
ANALYSIS: Volatiles

SAMPLES: 1 Water and 1 Soil Samples (YY271 and YY275)

COLLECTION DATE: June 2, 1997

REVIEWER: Adriane Scheele, ESAT/Lockheed

The comments and qualifications presented in this report have been reviewed and approved by the EPA Work Assignment Manager, (WAM) for the ESAT Contract, whose signature appears above.

If there are any questions, please contact Deirdre O'Leary (ESAT/Lockheed) at (415) 278-0582 or Rose Fong (QA Program/EPA) at (415) 744-1534.

Attachment

cc: Cecilia Moore; Acting TPO USEPA Region 5

TPO: ☐ FYI ☒ Attention ☐ Action

SAMPLING ISSUES: ☒ Yes ☐ No

Data Validation Report

Case No.: 25487 Memo #01
 Site: D&M Steel
 Laboratory: Clayton Environmental Consultants, Inc. (CLAYTN)
 Reviewer: Adriane Scheele, ESAT/Lockheed
 Date: September 24, 1997

I. Case Summary

SAMPLE INFORMATION:

VOA Samples: Water: YY271
 Soil: YY275
 Concentration and Matrix: Low Level Water and Soil
 Analysis: Volatiles
 SOW: OLM03.2
 Collection Date: June 2, 1997
 Sample Receipt Date: June 6, 1997
 Analysis Date: June 8 and 11, 1997

FIELD QC:

Trip Blanks (TB): None.
 Field Blanks (FB): None.
 Equipment Blanks (EB): None.
 Background Samples (BG): None.
 Field Duplicates (D1): YY270* and YY271 (*See Additional Comments)

METHOD BLANKS AND ASSOCIATED SAMPLES:

VBLKCD: YY271, YY271MS, and YY271MSD
 VBLKBU: YY275, YY275MS, YY275MSD, and VHBLK

TABLES:

1A: Analytical Results with Qualifications
 1B: Data Qualifier Definitions for Organic Data Review
 2: Continuing Calibrations

TPO ACTION:

None.

TPO ATTENTION:

Several results are estimated (J) due to calibration problems.

SAMPLING ISSUES:

(1) Sample YY271 was not adequately preserved in the field to a pH of less than 2. A pH of 5 was measured by the laboratory. (2) Although the chain of custody (CoC) did not specify that water sample YY271 be used for laboratory quality control (QC), the laboratory performed QC analysis on sample YY271, which is an environmental sample.

ADDITIONAL COMMENTS:

*The results for sample YY270, the field duplicate of sample YY271, are not available.

The tentatively identified compound (TIC) found in sample YY271 is reported on the Form 1E included in this report. No TICs were detected in sample YY275.

ADDITIONAL COMMENTS: (cont.)

All method requirements specified in the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analysis, OLM03.2, have been met. This report was prepared according to the SOW and the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," February 1994.

II. Validation Summary

	VOA Acceptable/Comment	
HOLDING TIMES	[YES]	[]
GC/MS TUNE/GC PERFORMANCE	[YES]	[]
CALIBRATIONS	[NO]	[C,D]
FIELD QC	[YES]	[]
LABORATORY BLANKS	[NO]	[B]
SURROGATES	[YES]	[]
MATRIX SPIKE/DUPLICATES	[YES]	[]
INTERNAL STANDARDS	[YES]	[]
COMPOUND IDENTIFICATION	[YES]	[]
COMPOUND QUANTITATION	[YES]	[A,E]
SYSTEM PERFORMANCE	[YES]	[]

III. Validity and Comments

- A. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

- B. The following detected results are qualified as nondetected and estimated due to laboratory blank contamination. The results are flagged "U,J" in Table 1A.

- Methylene chloride in sample YY275
- Acetone in samples YY271 and YY275

Methylene chloride and acetone were found in laboratory method blank VBLKBU and storage blank VHBLK. (See Table 1A for concentrations.) The results for the samples listed above are considered nondetected and estimated (U,J) and the quantitation limits have been increased according to the blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for the common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result (U,J). If the sample result is less than the CRQL, the result is reported as nondetected (U,J) at the CRQL.

A laboratory method blank is laboratory reagent water, or baked sand for solid matrices, analyzed with all reagents, surrogates, and internal standards and carried through the same sample preparation

and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

A storage blank is laboratory reagent water stored in a vial in the same area as the field samples. The storage blank is used to determine the level of contamination introduced by the laboratory during sample storage prior to analysis.

- C. The detected results and quantitation limits for the following analytes are estimated due to large percent relative standard deviations (%RSDs) in the initial calibrations. The results are flagged "J" in Table 1A.

- Methylene chloride in sample YY275, method blank VBLKBU, and storage blank VHBLK
- Acetone in samples YY271, YY275, method blanks VBLKCD, VBLKBU, and storage blank VHBLK

Percent RSDs of 40.9 and 32.4 were observed for methylene chloride and acetone, respectively, in the initial calibration performed April 16, 1997. A percent RSD of 37.8 was observed for acetone in the initial calibration performed May 21, 1997. These values exceed the $\pm 30.0\%$ QC advisory validation criterion.

The initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of the analytical sequence and of producing a linear calibration curve.

- D. The detected results and quantitation limits for the following analytes are estimated due to large percent differences (%Ds) in the continuing calibrations. The results are flagged "J" in Table 1A.

- Chloromethane, vinyl chloride, 1,2-dichloroethane, 4-methyl-2-pentanone, and 2-hexanone in sample YY275, method blank VBLKBU, and storage blank VHBLK
- Acetone and 2-butanone in samples YY271, YY275, method blanks VBLKCD, VBLKBU, and storage blank VHBLK
- Carbon disulfide and trans-1,3-dichloropropene in sample YY271 and method blank VBLKCD

Percent differences exceeding the $\pm 25.0\%$ QC advisory validation criterion were observed for the analytes listed above in the continuing calibrations performed June 8 and 11, 1997 (see Table 2).

The continuing calibration checks the instrument performance daily and produces the relative response factors for target analytes that are used for quantitation.

- E. Sample YY271 was analyzed at a 3-fold dilution due to high levels of target analytes. The CRQLs listed for this sample in Table 1A have been multiplied by the dilution factor.

TABLE 1A

Case No.: 25487 Memo #01

Site: D&N Steel

Lab.: Clayton Environmental Consultants, Inc. (CLAYTN)

Reviewer: Adriane Scheele, ESAT/Lockheed

Date: September 24, 1997

Analysis Type: Low Level Water Sample
for Volatiles

Concentration in µg/L

Station Location	GW-4			Method Blank			CRQL								
Sample I.D.	YY271 D1*			VBLKCD											
Date of Collection	6/2/97														
Volatiles Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chloromethane	30 U		E	10 U			10								
Bromomethane	30 U		E	10 U			10								
Vinyl chloride	30 U		E	10 U			10								
Chloroethane	30 U		E	10 U			10								
Methylene chloride	30 U		E	10 U			10								
Acetone	30 U	J	BCDE	10 U	J	CD	10								
Carbon disulfide	30 U	J	DE	10 U	J	D	10								
1,1-Dichloroethene	70			10 U			10								
1,1-Dichloroethane	30 U		E	10 U			10								
1,2-Dichloroethene (total)	30 U		E	10 U			10								
Chloroform	30 U		E	10 U			10								
1,2-Dichloroethane	30 U		E	10 U			10								
2-Butanone	30 U	J	DE	10 U	J	D	10								
1,1,1-Trichloroethane	240			10 U			10								
Carbon tetrachloride	30 U		E	10 U			10								
Bromodichloromethane	30 U		E	10 U			10								
1,2-Dichloropropane	30 U		E	10 U			10								
cis-1,3-Dichloropropene	30 U		E	10 U			10								
Trichloroethene	11 L	J	A	10 U			10								
Dibromochloromethane	30 U		E	10 U			10								
1,1,2-Trichloroethane	30 U		E	10 U			10								
Benzene	30 U		E	10 U			10								
trans-1,3-Dichloropropene	30 U	J	DE	10 U	J	D	10								
Bromoform	30 U		E	10 U			10								
4-Methyl-2-pentanone	30 U		E	10 U			10								
2-Hexanone	30 U		E	10 U			10								
Tetrachloroethene	270			10 U			10								
1,1,2,2-Tetrachloroethane	30 U		E	10 U			10								
Toluene	30 U		E	10 U			10								
Chlorobenzene	30 U		E	10 U			10								
Ethylbenzene	30 U		E	10 U			10								
Styrene	30 U		E	10 U			10								
Xylene (total)	30 U		E	10 U			10								

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable, NA-Not Analyzed

*D1 -The results for field duplicate sample YY270 are not available.

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank

TB-Trip Blank, BG-Background Sample

TABLE 1A

Case No.: 25487 Memo #01

Site: D&M Steel

Analysis Type: Low Level Soil Sample
for Volatiles

Lab.: Clayton Environmental Consultants, Inc. (CLAYTN)

Reviewer: Adriane Scheele, ESAT/Lockheed

Date: September 24, 1997

Concentration in µg/Kg

Station Location	SS-2-8			Method Blank			Storage Blank			CRQL					
Sample I.D.	YY275			VBLKBU			VHBLK								
Date of Collection	6/2/97														
Volatiles Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chloromethane	10 U	J	D	10 U	J	D	10 U	J	D	10					
Bromomethane	10 U			10 U			10 U			10					
Vinyl chloride	10 U	J	D	10 U	J	D	10 U	J	D	10					
Chloroethane	10 U			10 U			10 U			10					
Methylene chloride	10 U	J	BC	2 L	J	ABC	1 L	J	ABC	10					
Acetone	25 U	J	BCD	4 L	J	ABCD	16	J	BCD	10					
Carbon disulfide	2 L	J	A	10 U			10 U			10					
1,1-Dichloroethene	10 U			10 U			10 U			10					
1,1-Dichloroethane	10 U			10 U			10 U			10					
1,2-Dichloroethene (total)	10 U			10 U			10 U			10					
Chloroform	10 U			10 U			10 U			10					
1,2-Dichloroethane	10 U	J	D	10 U	J	D	10 U	J	D	10					
2-Butanone	10 U	J	D	10 U	J	D	10 U	J	D	10					
1,1,1-Trichloroethane	10 U			10 U			10 U			10					
Carbon tetrachloride	10 U			10 U			10 U			10					
Bromodichloromethane	10 U			10 U			10 U			10					
1,2-Dichloropropane	10 U			10 U			10 U			10					
cis-1,3-Dichloropropene	10 U			10 U			10 U			10					
Trichloroethene	10 U			10 U			10 U			10					
Dibromochloromethane	10 U			10 U			10 U			10					
1,1,2-Trichloroethane	10 U			10 U			10 U			10					
Benzene	10 U			10 U			10 U			10					
trans-1,3-Dichloropropene	10 U			10 U			10 U			10					
Bromoform	10 U			10 U			10 U			10					
4-Methyl-2-pentanone	10 U	J	D	10 U	J	D	10 U	J	D	10					
2-Hexanone	10 U	J	D	10 U	J	D	10 U	J	D	10					
Tetrachloroethene	10 U			10 U			10 U			10					
1,1,2,2-Tetrachloroethane	10 U			10 U			10 U			10					
Toluene	10 U			10 U			2 L	J	A	10					
Chlorobenzene	10 U			10 U			10 U			10					
Ethylbenzene	10 U			10 U			10 U			10					
Styrene	10 U			10 U			10 U			10					
Xylene (total)	10 U			10 U			10 U			10					
Percent Solids	96 %			N/A			N/A			N/A					

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank

TB-Trip Blank, BG-Background Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," February 1994.

- U** The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- L** Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- J** The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N** The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ** The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ** The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R** The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

TABLE 2
Continuing Calibrations

Case No.: 25487 Memo #01
Site: D&M Steel
Laboratory: Clayton Environmental Consultants, Inc. (CLAYTN)
Reviewer: Adriane Scheele, ESAT/Lockheed
Date: September 24, 1997

PERCENT DIFFERENCES

Analysis date:	%D	%D
<u>Analyte</u>	<u>6/8/97</u>	<u>6/11/97</u>
	<u>Cont.</u>	<u>Cont.</u>
Chloromethane	-----	-43.1
Vinyl chloride	-----	-26.8
Acetone	-47.0	-63.2
Carbon disulfide	-27.0	-----
1,2-Dichloroethane	-----	-28.2
2-Butanone	-28.0	-44.5
trans-1,3-Dichloropropene	-27.2	-----
4-Methyl-2-pentanone	-----	-35.1
2-Hexanone	-----	-40.7

ASSOCIATED SAMPLES AND BLANKS

Cont. 6/8/97: YY271 and VBLKCD
Cont. 6/11/97: YY275, VBLKBU, and VHBLK

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

YY271

Lab Name:CLAYTON ENVIRONMENTAL

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25487

SAS No.:

SDG No.:YY271

Matrix: (soil/water) WATER

Lab Sample ID:50636-001

Sample wt/vol: 5.00 (g/ml) ML

Lab File ID: C6735

Level: (low/med) LOW

Date Received: 6/06/97

% Moisture: not dec.

Date Analyzed: 6/08/97

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 3.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

Number TICs Found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1-Fluoro-1,1-dichloro-ethane	2.56	19.	J
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
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25.				
26.				
27.				
28.				
29.				
30.				

0017

FORM I VOA-TIC

OLM03.0

AGESAT 9/5/97

TPO: [] FYI [X] Attention [] Action

Region 9

ORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 25487 Memo #01 LABORATORY CLAYTN
 SDG NO. YY271 SITE NAME D&M Steel
 SOW OLM03.2 REVIEW COMPLETION DATE September 24, 1997
 REVIEWER [] ESD [X] ESAT REVIEWER'S NAME Adriane Scheele
 NO. OF SAMPLES 1 WATER 1 SOIL OTHER

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES/PRESERVATION	<u>O</u>	<u> </u>	<u> </u>	<u> </u>
2. GC-MS TUNE/GC PERFORMANCE	<u>O</u>	<u> </u>	<u> </u>	<u> </u>
3. INITIAL CALIBRATIONS	<u>X</u>	<u> </u>	<u> </u>	<u> </u>
4. CONTINUING CALIBRATIONS	<u>M</u>	<u> </u>	<u> </u>	<u> </u>
5. FIELD QC	<u>O</u>	<u> </u>	<u> </u>	<u> </u>
6. LABORATORY BLANKS	<u>X</u>	<u> </u>	<u> </u>	<u> </u>
7. SURROGATES	<u>O</u>	<u> </u>	<u> </u>	<u> </u>
8. MATRIX SPIKE/DUPLICATES	<u>O</u>	<u> </u>	<u> </u>	<u> </u>
9. REGIONAL QC	<u>N/A</u>	<u> </u>	<u> </u>	<u> </u>
10. INTERNAL STANDARDS	<u>O</u>	<u> </u>	<u> </u>	<u> </u>
11. COMPOUND IDENTIFICATION	<u>O</u>	<u> </u>	<u> </u>	<u> </u>
12. COMPOUND QUANTITATION	<u>O</u>	<u> </u>	<u> </u>	<u> </u>
13. SYSTEM PERFORMANCE	<u>O</u>	<u> </u>	<u> </u>	<u> </u>
14. OVERALL ASSESSMENT	<u>M</u>	<u> </u>	<u> </u>	<u> </u>

O = Data have no problems or problems that do not affect data quality.

X = Data are qualified due to minor problems.

M = Data are qualified due to major problems.

Z = Data are unacceptable.

N/A = Not Applicable

TPO ACTION: None.

TPO ATTENTION: Several results are estimated (J) due to calibration problems.

AREAS OF CONCERN: None.

In Reference to Case No(s) .:

25487

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: _____
Laboratory Name: Clayton Environmental
Consultants, Inc. (CLAYTN)
Lab Contact: Kelly Kolb, Project Manager
Region: 9
Regional Contact: Steve Remaley
ESAT Reviewer: Adriane Scheele, 09/24/97
Call Initiated By: _____ Laboratory X Region

In reference to data for the following sample(s):
YY271 and YY275 in SDG YY271 for Volatiles

Summary of Questions/Issues Discussed:

The following items were noted in the audit and validation of this sample delivery group (SDG). Please respond to item 3 within 7 days per Section 2.2 of Exhibit B of the OLM03.2 Statement of Work (SOW).

Audit Issues

- (1) The airbill was not signed and dated as instructed in Section 3.19.2.1 of Exhibit B of the SOW. Please sign and date the airbill in the future.
- (2) Item 8 [EPA Shipping/Receiving Documents, Airbills (No. of shipments _____)] of Form DC-2-4 was not completed. The reviewer manually entered "1" shipment for item 8. Please correct your copy.

Validation Issues

- (3) The amount of internal standard listed on the quantitation reports is 50 ng. According to Sections 10.1.3.7, 10.1.4.7, and 10.1.5.8 of Exhibit D/VOA, 10 µL of the 25 µg/mL internal standard spiking solution (i.e., 250 ng) is added samples. Please clarify if the internal amount standard should be 250 ng or 50 µg/L.
- (4) OLM03.1 is the SOW referenced on Form DC-2. For your information, the latest version of the SOW is OLM03.2.

Summary of Resolution:

- (1,2,4)
No response from the laboratory is required.
- (3)

Regional Contact Signature

Date of Resolution

Distribution: (Original) ESAT, (1) Lab Copy, (2) Region Copy, (3) CLASS Copy

Lockheed Martin Environmental Services

Environmental Services Assistance Team, Region 9
301 Howard Street, Suite 970, San Francisco, CA 94105-2241
Phone: 415-278-0570 Fax: 415-278-0588

MEMORANDUM

TO: Rachel Loftin
Site Assessment Manager
States Planning & Assessment Office, SFD-5

THROUGH: Rose Fong *Rose*
ESAT Regional Project Officer
Quality Assurance (QA) Program, PMD-3

FROM: Jack Berges *JB*
Team Manager
Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68D60005
Work Assignment No.: 9-97-1-4
Technical Direction No.: 9714049

DATE: September 22, 1997

SUBJECT: Review of Analytical Data

There is an unresolved telephone record log (TRL) in the report, but as data quality is not affected, the report is being submitted. Attached are comments resulting from ESAT Region 9 validation of the following analytical data:

SITE: Price-Pfister
SITE ACCOUNT NO.: ZZ
CERCLIS ID NO.: CAD008384190
CASE NO.: 25488 Memo #04
SDG NO.: YY278

LABORATORY: American Analytical & Technical Serv., Inc.
(AATSLA)
ANALYSIS: Volatiles, Semivolatiles, and Pesticides/PCBs

SAMPLES: 17 Soil Samples (see Case Summary)

COLLECTION DATE: June 3, 4, and 5, 1997

REVIEWER: Frank Arceneaux, ESAT/Lockheed

The comments and qualifications presented in this report have been reviewed and approved by the EPA Work Assignment Manager (WAM) for the ESAT Contract, whose signature appears above.

If there are any questions, please contact Deirdre O'Leary (ESAT/Lockheed) at (415) 278-0582 or Rose Fong (QA Program/EPA) at (415) 744-1534.

Attachment

cc: Ray Flores, TPO USEPA Region 6

TPO: ☐ FYI ☒ Attention ☐ Action

SAMPLING ISSUES: ☒ Yes ☐ No

DTSC
Cyber
9-24/97

Data Validation Report

Case No.: 25488 Memo #04
Site: Price-Pfister
Laboratory: American Analytical & Technical Serv., Inc. (AATSLA)
Reviewer: Frank Arceneaux, ESAT/Lockheed
Date: September 22, 1997

I. Case Summary**SAMPLE INFORMATION:**

VOA Samples: YY284 and YY290
BNA Samples: YY278 through YY286, YY289 through YY295, and YY297
PEST Samples: YY279 and YY280

Concentration and Matrix: Low Level Soil
Analysis: Volatiles, Semivolatiles, and Pesticides/PCBs
SOW: OLM03.2
Collection Date: June 3, 4, and 5, 1997
Sample Receipt Date: June 5 and 6, 1997
Extraction Date: June 13, 1997
VOA Analysis Date: June 9 and July 7, 1997
BNA Analysis Date: June 26 through 28, 1997
PEST Analysis Date: June 25, 1997

FIELD QC:

Trip Blanks (TB): None
Field Blanks (FB): None
Equipment Blanks (EB): YY287*, YY296*, and YY308* (*See Additional Comments)
Background Samples (BG): YY278 through YY282
Field Duplicates (D1): YY284 and YY285

METHOD BLANKS AND ASSOCIATED SAMPLES:

VBLK2F: YY284, YY284MS, YY284MSD, and YY290
VBLK1Q: VHBLK1Q
SBLK6F: YY278, YY279, YY279MS, YY279MSD, YY280 through YY286, YY289 through YY295, and YY297
PBLK2: YY279, YY279MS, YY279MSD, and YY280

TABLES:

1A: Analytical Results with Qualifications
1B: Data Qualifier Definitions for Organic Data Review
2: Volatiles: Continuing Calibrations

TPO ACTION:

None

TPO ATTENTION:

(1) The detected results for methylene chloride in both volatile samples are qualified as nondetected and estimated (U,J) due to contamination in a method blank. (2) Several volatile results are estimated (J) due to calibration problems.

SAMPLING ISSUES:

The detected results for several target analytes are qualified as nondetected and estimated (U,J) due to contamination in equipment blanks.

MS-Matrix Spike; MSD-Matrix Spike Duplicate; VHBLK-Storage Blank
ESTW-9A-237/25488M04.RPT

ADDITIONAL COMMENTS:

*The results for equipment blanks YY287, YY296, and YY308, collected with the samples of this sample delivery group (SDG), on June 3, 4, and 5, 1997, respectively, are located in Case 25488 Memo #05, SDG YY287. Di-n-butylphthalate was detected in equipment blanks YY287, YY296, and YY308 at concentrations of 3 µg/L, 4 µg/L, and 8 µg/L, respectively. bis(2-Ethylhexyl)phthalate was detected in equipment blanks YY296 and YY308 at concentrations of 2 µg/L and 15 µg/L, respectively. Analyses of samples YY287 and YY296 for volatiles were not requested. Sample YY308 was analyzed and no volatile target analytes were detected. Analyses of samples YY296 and YY308 for pesticides/PCBs were not requested. Sample YY287 was analyzed and no pesticide/PCB target analytes were detected.

Although the samples YY284 and YY285 are field duplicates, the analysis of only YY284 for volatiles was requested.

No tentatively identified compounds (TICs) were detected in the volatiles samples. The TICs found in the semivolatiles samples are reported on the Form 1Fs and in attachments to the SDG narrative included in this report. The user should note that the attachments to the SDG narrative summarize TICs which are alkanes.

This report was prepared according to the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analysis, OLM03.2 and the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," February 1994.

II. Validation Summary

	VOA		BNA		PEST	
	Acceptable/Comment		Acceptable/Comment		Acceptable/Comment	
HOLDING TIMES	[YES]	[]	[YES]	[]	[YES]	[]
GC/MS TUNE/GC PERFORMANCE	[YES]	[]	[YES]	[]	[YES]	[]
CALIBRATIONS	[NO]	[C,D]	[YES]	[]	[YES]	[]
FIELD QC	[N/A]	[]	[NO]	[B]	[YES]	[]
LABORATORY BLANKS	[NO]	[B]	[YES]	[]	[YES]	[]
SURROGATES	[YES]	[]	[YES]	[]	[YES]	[]
MATRIX SPIKE/DUPLICATES	[YES]	[]	[YES]	[]	[YES]	[]
INTERNAL STANDARDS	[YES]	[]	[YES]	[]	[N/A]	[]
COMPOUND IDENTIFICATION	[YES]	[]	[YES]	[E]	[YES]	[]
COMPOUND QUANTITATION	[YES]	[A]	[YES]	[A,F]	[YES]	[]
SYSTEM PERFORMANCE	[YES]	[]	[YES]	[]	[YES]	[]

N/A = Not Applicable

III. Validity and Comments

- A. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

- B. The following detected results are qualified as nondetected and estimated due to laboratory and equipment blank contamination. The results are flagged "U,J" in Table 1A.

- Methylene chloride in volatiles samples YY284 and YY290
- Di-n-butylphthalate in semivolatiles samples YY278 through YY286, YY289, YY290, YY291, YY293, YY294, YY295, and YY297
- bis(2-Ethylhexyl)phthalate in semivolatiles samples YY283, YY284, YY295 and YY297

Methylene chloride was found in laboratory method blank VBLK2F. Di-n-butylphthalate was found in equipment blanks YY287, YY296, and YY308. bis(2-Ethylhexyl)phthalate was found in equipment blanks YY296 and YY308. (See Table 1A and Additional Comments for concentrations.) The results for the samples listed above are considered nondetected and estimated (U,J) and the quantitation limits have been increased according to the blank qualification rules presented below..

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for the common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result (U,J). If the sample result is less than the CRQL, the result is reported as nondetected (U,J) at the CRQL.

A laboratory method blank is laboratory reagent water, or baked sand for solid matrices, analyzed with all reagents, surrogates, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during extraction and analysis.

An equipment blank is clean water that has been collected as a sample using decontaminated sampling equipment. The intent of an equipment blank is to monitor for contamination introduced by the sampling activity, although any laboratory introduced contamination will also be present.

- C. The detected result and quantitation limits for the following analyte are estimated due to a large percent relative standard deviation (%RSD) in an initial calibration. The results are flagged "J" in Table 1A.

- Methylene chloride in samples YY284 and YY290 and method blank VBLK2F.

A percent RSD of 52.9 was observed for methylene chloride in the initial calibration performed May 18, 1997. These values exceed the $\pm 30.0\%$ QC advisory validation criterion.

The initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of the analytical sequence and of producing a linear calibration curve.

D. The detected results and quantitation limits for the following analytes are estimated due to large percent differences (%Ds) in the continuing calibrations. The results are flagged "J" in Table 1A.

- Chloromethane, bromodichloromethane, and trans-1,3-dichloropropene in storage blank VHBLK1Q and method blank VBLK1Q
- Methylene chloride, 2-butanone, and 2-hexanone in samples YY284, YY290, and method blank VBLK2F
- Acetone in samples YY284, YY290, storage blank VHBLK1Q, and method blanks VBLK2F and VBLK1Q

Percent differences exceeding the $\pm 25.0\%$ QC advisory validation criterion were observed for the analytes listed above in the continuing calibrations performed June 9, and July 7, 1997 (see Table 2).

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

E. Although not detected in any associated blanks, phthalates have been commonly found as contaminants in the field and in many laboratories. The user should note that the analytes listed below may be artifacts.

- Diethylphthalate in samples YY278 through YY283
- Butylbenzylphthalate in sample YY278
- bis(2-Ethylhexyl)phthalate in samples YY278 through YY282

F. Semivolatile sample YY292 was analyzed at a five-fold dilution due to matrix interference. No target analytes were detected in this analysis, but the chromatogram shows an elevated baseline during most of the data acquisition. The CRQLs listed for these samples in Table 1A have been multiplied by the dilution factor.

Site: Price-Pfister

TABLE 1A

Lab.: American Analytical & Technical Serv., Inc. (AATSLA)

Reviewer: Frank Arceneaux, ESAT/Lockheed

Analysis Type: Low Level Soil Samples
for Semivolatiles

Date: September 22, 1997

Concentration in µg/Kg

Station Location Sample ID. Date of Collection	SS-AI-06 YY278 BG 6/3/97			SS-AI-03 YY279 BG 6/3/97			SS-AI-10 YY280 BG 6/3/97			SS-AI-15 YY281 BG 6/3/97			SS-AI-40 YY282 BG 6/3/97			SS-CI-8 YY283 6/4/97			SS-CI-20 YY284 DI 6/4/97		
Semivolatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Phenol	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
bis(2-Chloroethyl)ether	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
2-Chlorophenol	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
1,3-Dichlorobenzene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
1,4-Dichlorobenzene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
1,2-Dichlorobenzene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
2-Methylphenol	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
2,2'-oxybis(1-Chloropropane)	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
4-Methylphenol	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
N-Nitroso-di-n-propylamine	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Hexachlorocyclohexane	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Nitrobenzene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Isophorone	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
2-Nitrophenol	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
2,4-Dimethylphenol	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
bis(2-Chloroethoxy)methane	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
2,4-Dichlorophenol	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
1,2,4-Trichlorobenzene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Naphthalene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
4-Chloroaniline	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Hexachlorobutadiene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
4-Chloro-3-methylphenol	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
2-Methylnaphthalene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Hexachlorocyclopentadiene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
2,4,6-Trichlorophenol	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
2,4,5-Trichlorophenol	860 U			870 U			930 U			860 U			860 U			850 U			910 U		
2-Chloronaphthalene	330 U			330 U			370 U			330 U			330 U			330 U			360 U		
2-Nitroaniline	860 U			870 U			930 U			860 U			860 U			850 U			910 U		
Dimethylphthalate	330 U			330 U			370 U			330 U			330 U			330 U			360 U		
Acenaphthylene	330 U			330 U			370 U			330 U			330 U			330 U			360 U		
2,6-Dinitrotoluene	330 U			330 U			370 U			330 U			330 U			330 U			360 U		
3-Nitroaniline	860 U			870 U			930 U			860 U			860 U			850 U			910 U		

Station Location	SS-AI-06			SS-AI-03			SS-AI-10			SS-AI-15			SS-AI-40			SS-CI-8			SS-CI-20		
Sample I.D.	YY278 BG			YY279 BG			YY280 BG			YY281 BG			YY282 BG			YY283			YY284 DI		
Date of Collection	6/3/97			6/3/97			6/3/97			6/3/97			6/3/97			6/4/97			6/4/97		
Semivolatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Acenaphthene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
2,4-Dinitrophenol	860 U			870 U			930 U			860 U			860 U			850 U			910 U		
4-Nitrophenol	860 U			870 U			930 U			860 U			860 U			850 U			910 U		
Dibenzofuran	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
2,4-Dinitrotoluene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Diethylphthalate	7 L	J	AE	9 L	J	AE	13 L	J	AE	15 L	J	AE	12 L	J	AE	11 L	J	AE	360 U		
4-Chlorophenyl phenyl ether	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Fluorene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Nitroaniline	860 U			870 U			930 U			860 U			860 U			850 U			910 U		
4,6-Dinitro-2-methylphenol	860 U			870 U			930 U			860 U			860 U			850 U			910 U		
N-Nitrosodiphenylamine	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
4-Bromophenyl phenyl ether	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Hexachlorobenzene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Pentachlorophenol	860 U			870 U			930 U			860 U			860 U			850 U			910 U		
Phenanthrene	5 L	J	A	6 L	J	A	370 U			340 U			340 U			340 U			360 U		
Anthracene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Carbazole	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Di-n-butylphthalate	340 U	J	B	350 U	J	B	370 U	J	B	340 U	J	B	340 U	J	B	340 U	J	B	360 U	J	B
Fluoranthene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Pyrene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Butylbenzylphthalate	10 L	J	AE	350 U			370 U			340 U			340 U			340 U			360 U		
3,3'-Dichlorobenzidine	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Benzo(a)anthracene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Pyrene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Di(2-Ethylhexyl)phthalate	54 L	J	AE	69 L	J	AE	73 L	J	AE	130 L	J	AE	43 L	J	AE	340 U	J	B	360 U	J	B
Di-n-octylphthalate	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Benzo(b)fluoranthene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Benzo(k)fluoranthene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Benzo(a)pyrene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Indeno(1,2,3-cd)pyrene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Dibenz(a,h)anthracene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Benzo(g,h,i)perylene	340 U			350 U			370 U			340 U			340 U			340 U			360 U		
Percent Solids	96 %			95 %			89 %			97 %			96 %			98 %			91 %		

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1A

Site: Price-Plister

Lab.: American Analytical & Technical Serv., Inc. (AATSLS)

Reviewer: Frank Arceneaux, ESAT/Lockheed

Date: September 22, 1997

Analysis Type: Low Level Soil Samples
for Semivolatiles

Concentration in µg/Kg

Station Location	SS-D3-20			SS-D3-40			SS-D2-8			Method Blank			CRQL					
Sample I.D.	YY294			YY295			YY297			SBLK6F								
Date of Collection	6/5/97			6/5/97			6/5/97											
Semivolatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Phenol	350 U			370 U			340 U			330 U			330					
bis(2-Chloroethyl)ether	350 U			370 U			340 U			330 U			330					
2-Chlorophenol	350 U			370 U			340 U			330 U			330					
1,4-Dichlorobenzene	350 U			370 U			340 U			330 U			330					
1,2-Dichlorobenzene	350 U			370 U			340 U			330 U			330					
2-Methylphenol	350 U			370 U			340 U			330 U			330					
2,2'-oxybis(1-Chloropropane)	350 U			370 U			340 U			330 U			330					
4-Methylphenol	350 U			370 U			340 U			330 U			330					
N-Nitroso-di-n-propylamine	350 U			370 U			340 U			330 U			330					
Hexachlorocyclohexane	350 U			370 U			340 U			330 U			330					
Nitrobenzene	350 U			370 U			340 U			330 U			330					
Isophorone	350 U			370 U			340 U			330 U			330					
2-Nitrophenol	350 U			370 U			340 U			330 U			330					
2,4-Dimethylphenol	350 U			370 U			340 U			330 U			330					
bis(2-Chloromethoxy)methane	350 U			370 U			340 U			330 U			330					
2,4-Dichlorophenol	350 U			370 U			340 U			330 U			330					
1,2,4-Trichlorobenzene	350 U			370 U			340 U			330 U			330					
1-Naphthalene	350 U			370 U			340 U			330 U			330					
4-Chloroaniline	350 U			370 U			340 U			330 U			330					
Hexachlorobutadiene	350 U			370 U			340 U			330 U			330					
4-Chloro-3-methylphenol	350 U			370 U			340 U			330 U			330					
2-Methylnaphthalene	350 U			370 U			340 U			330 U			330					
Hexachlorocyclopentadiene	350 U			370 U			340 U			330 U			330					
2,4,6-Trichlorophenol	350 U			370 U			340 U			330 U			330					
2,4,5-Trichlorophenol	880 U			920 U			850 U			830 U			830					
2-Chloronaphthalene	350 U			370 U			340 U			330 U			330					
2-Nitroaniline	880 U			920 U			850 U			830 U			830					
Dimethylphthalate	350 U			370 U			340 U			330 U			330					
Acenaphthylene	350 U			370 U			340 U			330 U			330					
2,6-Dinitrotoluene	350 U			370 U			340 U			330 U			330					
3-Nitroaniline	880 U			920 U			850 U			830 U			830					

Station Location Sample I.D. Date of Collection	SS-D3-20 YY294 6/5/97			SS-D3-40 YY295 6/5/97			SS-D2-8 YY297 6/5/97			Method Blank SBLK6F			CRQL					
Semivolatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Acenaphthene	350 U			370 U			340 U			330 U			330					
2,4-Dinitrophenol	880 U			920 U			850 U			830 U			830					
4-Nitrophenol	880 U			920 U			850 U			830 U			830					
Dibenzofuran	350 U			370 U			340 U			330 U			330					
2,4-Dinitrotoluene	350 U			370 U			340 U			330 U			330					
Diethylphthalate	350 U			370 U			340 U			330 U			330					
4-Chlorophenyl phenyl ether	350 U			370 U			340 U			330 U			330					
Pyrene	350 U			370 U			340 U			330 U			330					
4-Nitroaniline	880 U			920 U			850 U			830 U			830					
4,6-Dinitro-2-methylphenol	880 U			920 U			850 U			830 U			830					
N-Nitrosodiphenylamine	350 U			370 U			340 U			330 U			330					
4-Bromophenyl phenyl ether	350 U			370 U			340 U			330 U			330					
Hexachlorobenzene	350 U			370 U			340 U			330 U			330					
Pentachlorophenol	880 U			920 U			850 U			830 U			830					
Phenanthrene	350 U			370 U			340 U			330 U			330					
Anthracene	350 U			370 U			340 U			330 U			330					
Carbazole	350 U			370 U			340 U			330 U			330					
Di-n-butylphthalate	350 U			370 U			340 U			330 U			330					
Fluoranthene	350 U			370 U			340 U			330 U			330					
Pyrene	350 U			370 U			340 U			330 U			330					
Butylbenzylphthalate	350 U			370 U			340 U			330 U			330					
3,3'-Dichlorobenzidine	350 U			370 U			340 U			330 U			330					
Benzo(a)anthracene	350 U			370 U			340 U			330 U			330					
Benzo(a)pyrene	350 U			370 U			340 U			330 U			330					
bis(2-Ethylhexyl)phthalate	350 U			370 U			340 U			330 U			330					
Di-n-octylphthalate	350 U			370 U			340 U			330 U			330					
Benzo(b)fluoranthene	350 U			370 U			340 U			330 U			330					
Benzo(k)fluoranthene	350 U			370 U			340 U			330 U			330					
Benzo(a)pyrene	350 U			370 U			340 U			330 U			330					
Indeno(1,2,3-cd)pyrene	350 U			370 U			340 U			330 U			330					
Dibenz(a,h)anthracene	350 U			370 U			340 U			330 U			330					
Benzo(g,h,i)perylene	350 U			370 U			340 U			330 U			330					
Percent Solids	94 %			90 %			98 %			N/A			N/A					

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," February 1994.

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
000126

Lab Name: AATSLA

Contract: 68-D5-0023

YY278

Lab Code: AATSLA Case No.: 25488

SAS No.: _____ SDG No.: YY278

Matrix: (soil/water) SOIL

Lab Sample ID: 2204301

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 83916

Level: (low/med) LOW

Date Received: 06/05/97

Moisture: 4 decanted: (Y/N) N

Date Extracted: 06/13/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 06/26/97

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

PC Cleanup: (Y/N) Y pH: 7.3

Number TICs found: 26 ¹⁹ ~~24~~ ^{7a}

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Aldol condensation	6.03	280	BJ
2.	Unknown	6.20	140	J
3.	Unknown	6.32	83	J
4.	Aldol condensation	6.50	370	BJ
5.	Unknown	7.07	120	BJ
6. 1638-16-0	2-Propanol, 1,1'-(1-methyl-	8.68	90	JN
7. 1638-16-0	2-Propanol, 1,1'-(1-methyl-	8.72	99	JN
8.	Unknown	13.00	86	J
9.	Unknown	17.70	86	J
10.	Unknown	18.30	250	BJ
11.	Unknown	18.47	93	J
12.	Unknown	18.73	95	J
13.	Unknown	18.77	69	J
14.	Unknown	18.82	84	J
15.	Unknown	18.93	330	J
16.	Unknown	19.20	120	J
17.	Unknown	19.45	180	J
18.	Unknown	19.57	230	J
19.	Unknown	19.68	220	J
20.	Unknown	19.82	140	J
21.	Unknown	19.90	230	J
22.	Unknown	20.05	230	J
23.	Unknown	20.10	100	J
24.	Unknown	20.30	160	J
25.	Unknown	20.53	200	J
26.	Unknown	21.13	130	J

1 and 4 are not TICs: they are Aldol reaction products.

FORM I SV-TIC

7a 9-3-97

OLM03.0

#1,2,4,5,8,10, and 15 were also found in the extraction blank SBLK 6F.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
000163

YY279

Lab Name: AATSLA Contract: 68-D5-0023

Lab Code: AATSLA Case No.: 25488 SAS No.: _____ SDG No.: YY278

Matrix: (soil/water) SOIL Lab Sample ID: 2204307

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 83922

Level: (low/med) LOW Date Received: 06/05/97

Moisture: 5 decanted: (Y/N) N Date Extracted: 06/13/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/26/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0 2.0

PC Cleanup: (Y/N) Y pH: 7.9

JUL 03 1997

Number TICs found: 15
20-18 79 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Aldol condensation	6.07	390	BJ
2.	Aldol condensation	6.60	350	BJ
3.	Unknown	13.83	180	BJ
4. 57-11-4	Octadecanoic acid	15.07	180	JN
5.	Unknown	17.65	79	J
6.	Unknown	17.73	160	J
7.	Unknown	18.42	270	BJ
8.	Unknown	18.50	93	J
9.	Unknown	18.77	74	J
10.	Unknown	18.97	310	J
11.	Unknown	19.48	120	J
12.	Unknown	19.60	140	J
13.	Unknown	19.70	130	J
14.	Unknown	19.85	97	J
15.	Unknown	19.93	160	J
16.	Unknown	20.08	150	J
17.	Unknown	20.32	74	J
18.	Unknown	20.37	73	J
19.	Unknown	20.57	120	J
20.	Unknown	21.17	72	J

#1 and 2 are not TICs: they are Aldol reaction products.

79 9-3-97

#1, 2, 3, 7, and 10 were also found in the extraction blank.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

000194

YY280

Lab Name: AATSLA

Contract: 68-D5-0023

Lab Code: AATSLA

Case No.: 25488

SAS No.: _____

SDG No.: YY278

Matrix: (soil/water) SOIL

Lab Sample ID: 2204303

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 83918

Level: (low/med) LOW

Date Received: 06/05/97

% Moisture: 11 decanted: (Y/N) N

Date Extracted: 06/13/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 06/26/97

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0 ~~2.0~~

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs found: 3 ~~7~~ ^{7a}

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

03 ~~87~~

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Aldol condensation	6.07	380	BJ
2.	Unknown	6.20	110	J
3.	Aldol condensation	6.58	280	JB
4.	Unknown	14.62	86	J
5.	Unknown	16.48	160	J
6.	Unknown	17.67	81	J
7.	Unknown	18.38	360	BJ
8.	Unknown	18.58	100	J
9.	Unknown	18.93	110	J

#1 and 3 are not TICs; they are Aldol reaction products.
#1, 2, 3, 5, 7, and 9 were also found in the method blanks.

7a 9-3-97

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: AATSLA

Contract: 68-D5-0023

YY281 70
000712 9-3-97

Lab Code: AATSLA

Case No.: 25488

SAS No.: _____

SDG No.: YY278

Matrix: (soil/water) SOIL

Lab Sample ID: 2204304

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 83919

Level: 1 (low/med) LOW

Date Received: 06/05/97

% Moisture: 3 decanted: (Y/N) N

Date Extracted: 06/13/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 06/26/97

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

Number TICs found: 1 5 3 7A

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Aldol condensation	6.07	110	BJ
2.	Aldol condensation	6.50	87	BJ
3.	Unknown	15.83	300	J
4.	Unknown	16.78	120	J
5.	Unknown	18.30	370	BJ
6.	Unknown	18.58	210	J
7.	Unknown	18.93	140	BJ

#1 and 2 are not TICs: they are Aldol reaction products.

7A 9-3-97

#1, 2, 5, and 7 were also found in the method blank.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000227

EPA SAMPLE NO.

Lab Name: AATSLA

Contract: 68-D5-0023

YY282

Lab Code: AATSLA Case No.: 25488

SAS No.: _____ SDG No.: YY278

Matrix: (soil/water) SOIL

Lab Sample ID: 2204305

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 83920

Level: 1 (low/med) LOW

Date Received: 06/05/97

% Moisture: 4 decanted: (Y/N) N

Date Extracted: 06/13/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 06/26/97

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0 2.0

GPC Cleanup: (Y/N) Y pH: 8.0

Number TICs found: 1 7A

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

JUL 03 1997

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Aldol condensation	6.07	110	B3
2.	Unknown	6.20	87	J
3.	Aldol condensation	6.58	100	B3
4.	Unknown	13.00	80	B3
5.	Unknown	18.30	150	B3
6.	Unknown	18.58	71	J

#1 and #3 are not TICs.
#1 through 5 were also found in the method blank SBLK6F
7A 9-3-97

TPO: [] FYI [X] Attention [] Action

Region 9

ORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 25488 Memo #04 LABORATORY AATSLA
 SDG NO. YY278 SITE NAME Price-Pfister
 SOW OLM03.2 REVIEW COMPLETION DATE September 22, 1997
 REVIEWER [] ESD [X] ESAT REVIEWER'S NAME Frank Arceneaux
 NO. OF SAMPLES WATER 17 SOIL OTHER

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES/PRESERVATION	<u>0</u>	<u>0</u>	<u>0</u>	<u> </u>
2. GC-MS TUNE/GC PERFORMANCE	<u>0</u>	<u>0</u>	<u>0</u>	<u> </u>
3. INITIAL CALIBRATIONS	<u>X</u>	<u>0</u>	<u>0</u>	<u> </u>
4. CONTINUING CALIBRATIONS	<u>X</u>	<u>0</u>	<u>0</u>	<u> </u>
5. FIELD QC	<u>0</u>	<u>X</u>	<u>0</u>	<u> </u>
6. LABORATORY BLANKS	<u>X</u>	<u>0</u>	<u>0</u>	<u> </u>
7. SURROGATES	<u>0</u>	<u>0</u>	<u>0</u>	<u> </u>
8. MATRIX SPIKE/DUPLICATES	<u>0</u>	<u>0</u>	<u>0</u>	<u> </u>
9. REGIONAL QC	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u> </u>
10. INTERNAL STANDARDS	<u>0</u>	<u>0</u>	<u>N/A</u>	<u> </u>
11. COMPOUND IDENTIFICATION	<u>0</u>	<u>0</u>	<u>0</u>	<u> </u>
12. COMPOUND QUANTITATION	<u>0</u>	<u>0</u>	<u>0</u>	<u> </u>
13. SYSTEM PERFORMANCE	<u>0</u>	<u>0</u>	<u>0</u>	<u> </u>
14. OVERALL ASSESSMENT	<u>X</u>	<u>X</u>	<u>0</u>	<u> </u>

0 = Data have no problems or problems that do not affect data quality.

X = Data are qualified due to minor problems.

M = Data are qualified due to major problems.

Z = Data are unacceptable.

N/A = Not Applicable

TPO ACTION: None.

TPO ATTENTION: (1) The detected results for methylene chloride in both volatiles samples are qualified as nondetected and estimated (U,J) due to contamination in a method blank. (2) Several volatile results are estimated (J) due to calibration problems.

AREAS OF CONCERN: None.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

September 02, 1997

MEMORANDUM

SUBJECT: Review of Analytical Data

FROM: Dawn Richmond, Chemist *Dawn Richmond*
Quality Assurance Program (QAP), PMD-3

THROUGH: Vance S. Fong, P.E., Manager *Dawn Richmond for VF*
Quality Assurance Program (QAP), PMD-3

TO: Rachel Loftin, Remedial Project Manager
States Planning and Assessment Office, SFD-5

Attached are comments resulting from QAP Region IX review of the following analytical data:

SITE: Price Pfister
EPA SSI NO.: ZZ
CERCLIS ID NO.: CAD008384190
CASE/SAS NO.: 25488
SDG NO.: 1

LABORATORY: Region IX
ANALYSIS: FASP Volatiles

SAMPLE NO.: 18 Soil Samples (see Case Summary)

COLLECTION DATE: June 03, 1997; June 04, 1997; and June 05, 1997

REVIEWER: Dawn Richmond
QAP, PMD-3/USEPA

If there are any questions, please contact me at (415) 744-1494.

Attachment

cc: Brenda Bettencourt, PMD-3

Printed on Recycled Paper

Data Validation Report

Case No.: 25488
Site: Price Pfister
Laboratory: Region IX
Reviewer: Dawn Richmond, QAP, PMD-3/USEPA
Date: September 02, 1997

I. Case Summary

SAMPLE INFORMATION:

VOA Sample Numbers: YY278, YY279, YY280, YY281, YY282, YY283, YY284, YY285, YY286, YY289, YY290, YY291, YY292, YY293, YY294, YY295, YY297, and YY298
Concentration and Matrix: Low Level Soil
Analysis: FASP Volatiles
SOW: 3/90 (July 1993 revision)
Collection Date: June 03, 1997; June 04, 1997; and June 05, 1997
Sample Receipt Date: June 03, 1997; June 04, 1997; and June 05, 1997
Extraction Date: N/A
Analysis Date: June 04, 1997; June 05, 1997; and June 06, 1997

FIELD QC:

Trip Blanks (TB): None
Field Blanks (FB): None
Equipment Blanks (EB): None
Background Samples (BG): None
Field Duplicates (D1): None

METHOD BLANKS AND ASSOCIATED SAMPLES:

VBLK01: YY278, YY278RA, YY279, YY280, YY281, YY282, LCS01, YY282MS, and YY282MSD
VBLK02: YY278RA2, YY283, YY284, YY285, YY286, LCS02, YY284MS, and YY284MSD
VBLK03: YY289, YY290, YY291, YY292, YY293, YY294, YY295, YY297, YY298, LCS03, YY290MS, and YY290MSD
VBLK04: LCS04, YY292DL, and YY292DL2

TABLES:

1A: Analytical Results with Qualifications
1B: Data Qualifiers

TPO ACTION:

SAMPLING ISSUES: None.

OTHER: None.

TPO ATTENTION:

SAMPLING ISSUES: None.

OTHER: None.

ADDITIONAL COMMENTS:

The analytical results with qualifications are listed in Table 1A. This report was prepared in accordance with EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", February 1994.

II. Validation Summary

	VOA	
	Acceptable/Comment	
HOLDING TIMES	[YES]	[]
GC/MS TUNE/GC PERFORMANCE	[YES]	[]
CALIBRATIONS	[YES]	[]
FIELD QC	[YES]	[B,C]
LABORATORY BLANKS	[YES]	[]
SURROGATES	[YES]	[A]
MATRIX SPIKE/DUPLICATES	[YES]	[D]
INTERNAL STANDARDS	[YES]	[]
COMPOUND IDENTIFICATION	[YES]	[E]
COMPOUND QUANTITATION	[YES]	[F]
SYSTEM PERFORMANCE	[YES]	[G,F]
	[YES]	[]

III. Introduction

Eighteen (18) low soil samples from the Price Pfister site were submitted to the EPA FASP laboratory for FASP volatile organic analyses during the period of June 03, 1997; June 04, 1997; and June 05, 1997.

IV. Validity and Comments

- A) Due to equipment blank contamination, the results reported in Table 1A for the following analytes are estimated (UJ):

- 1,4-Dichlorobenzene in sample YY286.

A laboratory method blank is laboratory reagent water consisting of all reagents, surrogates and internal standards carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

Method blank VBLK02 had 0.22 ppb and 0.40 ppb of 1,4-Dichlorobenzene, and 1,2-Dibromo-3-chloropropane, respectively. Method blank VBLK03 had 0.26 ppb and 0.27 ppb of 1,2,3-Trichloropropane, and 1,2-Dibromo-3-chloropropane, respectively. Values below 0.5 ppb were not reported, by the laboratory. However the blank qualification rules below would still apply. 1,4-Dichlorobenzene in sample YY286 is below five times the amount in the method blank, therefore it is qualified as nondetected at the amount found in the sample. Method blank VBLK01 had 0.5 ppb, 2 ppb, 2 ppb, 0.7 ppb, 0.5 ppb, 0.7 ppb, 1 ppb, 0.7 ppb, 0.9 ppb, and 0.9 ppb of 1,3-Dichloropropane, 1,2,3-Trichloropropane, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, 1,1,2-Trichloroethane, Bromoform,

1,1,2,2-Tetrachloroethane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, and 1,2-Dichlorobenzene, respectively. All associated samples were nondetected for those compounds. Additionally, various ketones were found in all blanks. They were not reported as target compounds in the samples. Therefore no qualification is required. It should also be noted that 1-Propanol was found as a tentatively identified compound in all blanks and samples. This would imply that it is contamination from the analytical process.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for the common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result (J,U). If the sample result is less than the CRQL, the result is reported as nondetected (J,U) at the CRQL.

- B) Due to large percent Relative Standard Deviations (%RSDs) in the Initial Calibrations, the detected results and quantitation limits for the following analytes are estimated (UJ,J) (see Table 1A):

- Bromomethane in all samples and method blanks.
- Chloroethane in all samples and method blanks.

The Initial Calibration demonstrates that the instrument is capable of acceptable performance at the beginning of the analytical sequence and of producing a linear calibration curve.

Percent Relative Standard Deviations of 40 % and 39 % were observed for Bromomethane and Chloroethane, respectively, in the Initial Calibrations performed June 04, 1997. These values exceed the <30% QC advisory validation criterion.

- C) Due to large percent Differences (%Ds) in the Continuing Calibrations, the detected results and quantitation limits for the following analytes are estimated (UJ,J) (see Table 1A):

- p&m-Xylene in samples YY278RA2, YY283, YY284, YY285, YY286, YY292DL, YY292DL2, matrix spike YY284MS, matrix spike YY284MSD, laboratory control sample LCS02, laboratory control sample LCS04, method blank VBLK02, and method blank VBLK04.

The Continuing Calibration checks the instrument performance daily and produces the Relative Response Factors for each target analyte that are used for quantitation.

Percent Differences of 43% and 40% were observed for m&p-Xylene in the Continuing Calibrations performed on 06/05/97 and 06/06/97, respectively. These values exceed the <±30% QC advisory validation criterion.

- D) Surrogates are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

All samples are spiked with surrogate compounds prior to purging. Surrogates provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

A recovery of 142% was reported for the surrogate Toluene-d, in sample YY278RA. The QC advisory validation criterion for Toluene-d, recovery is 84 % - 138 %. The reported results for analytes associated with that surrogate would have a high bias. All results are nondetected in that sample. Therefore no qualification is required.

E) Due to low internal standard areas, the detected results and quantitation limits for the following compounds are estimated (UJ,J) (see Table 1A):

- 1,1,1-Trichloroethane, Carbon Tetrachloride, Bromodichloromethane, 1,2-Dichloropropane, trans-1,3-chloropropene, Trichloroethene, Dibromochloromethane, 1,1,2-Trichloroethane, Benzene, cis-1,3-Dichloropropene, Bromoform 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, Tetrachloroethene, 1,1,2,2-Tetrachloroethane, Toluene, Chlorobenzene, Ethylbenzene, Styrene, Xylene (ortho-), Xylene (meta- & para-), 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2-Dichlorobenzene, 4-Bromofluorobenzene, and Toluene-d₆ in samples YY292.
- 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, Tetrachloroethene, 1,1,2,2-Tetrachloroethane, Toluene, Chlorobenzene, Ethylbenzene, Styrene, Xylene (ortho-), Xylene (meta- & para-), 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2-Dichlorobenzene, 4-Bromofluorobenzene, and Toluene-d₆ in sample YY292DL.

Internal standards, introduced in every calibration standard, blank, sample and QC sample, monitor changes in analyte response due to matrix effects and fluctuations in instrument sensitivity throughout the analytical sequence. Internal standards are used to quantitate the concentration of target analytes and surrogate standards.

The internal standard area for 1,4-Difluorobenzene and Chlorobenzene-d₆ in sample YY292 (33% and 13%) fell below the QC advisory criterion of 50%-200%. The internal standard area for Chlorobenzene-d₆ in sample YY292DL (46%) fell below the QC advisory criterion of 50%-200%. The results and quantitation limits for the sample listed above are considered quantitatively questionable. Where the results are nondetected, false negatives may exist.

F) Sample YY293 was analyzed following YY292 which had exceeded calibration range for Tetrachloroethene (PCE). In the opinion of the reviewer, the result of PCE in sample YY293 is carryover from sample YY292. The result for PCE in sample YY293 is qualified as nondetected and estimated (UJ) and the quantitation limits have been increased according.

G) The following results are estimated and flagged "J" in Table 1A:

- All results below the Contract Required Quantitation Limits (denoted with an "L" qualifier)

Results below the Contract Required Quantitation Limits (CRQL) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

ANALYTICAL RESULTS

Table 1A

Case No. 25488 (1)

Site: Price Pfister

Laboratory: Region 9, Richmond

Reviewer: Dawn Richmond, USEPA/QAP

Date: September 02, 1997

Page 1 of 3

Analysis:

OCMS VOAS

Matrix:

Low Level Soil

Concentration in µg/Kg

Station Location	SS-A1-06			SS-A1-03			SS-A1-10			SS-A1-15			SS-A1-08		
Sample ID	YY278			YY279			YY280			YY281			YY282		
Date of Collection	06/03/97			06/03/97			06/03/97			06/03/97			06/03/97		
Analyte	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chloromethane	2 U			2 U			2 U			2 U			2 U		
Vinyl Chloride	2 U			2 U			2 U			2 U			2 U		
Dichlorodifluoromethane	2 U			2 U			2 U			2 U			2 U		
Methylene chloride	2 U			2 U			2 U			2 U			2 U		
1,1-Dichloroethene	2 U			2 U			2 U			2 U			2 U		
cis-1,2-Dichloroethene	2 U			2 U			2 U			2 U			2 U		
Chloroform	2 U			2 U			2 U			2 U			2 U		
1,3-Dichloropropane	2 U			2 U			2 U			2 U			2 U		
1,2-Dibromo-3-chloropropane	2 U			2 U			2 U			2 U			2 U		
1,1,1-Trichloroethane	2 U			2 U			2 U			2 U			2 U		
Bromodichloromethane	2 U			2 U			2 U			2 U			2 U		
cis-1,3-Dichloropropene	2 U			2 U			2 U			2 U			2 U		
Dibromochloromethane	2 U			2 U			2 U			2 U			2 U		
Benzene	2 U			2 U			2 U			2 U			2 U		
Bromoform	2 U			2 U			2 U			2 U			2 U		
1,1,2,2-Tetrachloroethane	2 U			2 U			2 U			2 U			2 U		
Chlorobenzene	2 U			2 U			2 U			2 U			2 U		
Styrene	2 U			2 U			2 U			2 U			2 U		
Xylene (para & meta)	2 U			2 U			2 U			2 U			2 U		
1,4-Dichlorobenzene	2 U			2 U			2 U			2 U			2 U		

Val-Validity Refer to Data Qualifiers in Table 1B.

Com-Comments Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc.-Field Duplicate Pair

FB-Field Blank, EB-Equipment Blank

TB-Trip Blank, B-G-Background Sample

D-Dilution

Table 1A

Case No. 25488 (1)

Site: Price Plaster

Laboratory: Region 9, Richmond

Reviewer: Dawn Richmond, USEPA/QAP

Date: September 02, 1997

Page 4 of 5

Acetabulum:

COMS VOAS

Abstract:

Low Level Soil

Concentration in $\mu\text{g/Kg}$

Station Location	SS-D3-40			SS-D3-4			SS-D3-18			Method Blank			Method Blank		
Sample I.D.	YY295			YY297			YY298			VBLC01			VBLC02		
Date of Collection	06/05/97			06/05/97			06/05/97								
Analyte	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chloromethane	2 U			2 U			2 U			2 U			2 U		
Vinyl Chloride	2 U			2 U			2 U			2 U			2 U		
Dichlorodifluoromethane	2 U			2 U			2 U			2 U			2 U		
Methylene chloride	2 U			2 U			2 U			2 U			2 U		
1,1-Dichloroethene	2 U			2 U			2 U			2 U			2 U		
is-1,2-Dichloroethene	2 U			2 U			2 U			2 U			2 U		
Chloroform	2 U			2 U			2 U			2 U			2 U		
1,1-Dichloropropane	2 U			2 U			2 U			0.5 L J G			2 U		
2-Dibromo-3-chloropropane	2 U			2 U			2 U			2			2 U		
1,1-Trichloroethane	2 U			2 U			2 U			2 U			2 U		
trans-Dichloromethane	2 U			2 U			2 U			2 U			2 U		
is-1,3,5-trichloropropene	2 U			2 U			2 U			2 U			2 U		
Bromochloromethane	2 U			2 U			2 U			2 U			2 U		
benzene	2 U			2 U			2 U			2 U			2 U		
trichloroform	2 U			2 U			2 U			0.7 L J G			2 U		
1,2,2-Tetrachloroethane	2 U			2 U			2 U			1 L J G			2 U		
chlorobenzene	2 U			2 U			2 U			2 U			2 U		
styrene	2 U			2 U			2 U			2 U			2 U		
limonene (para & meta)	2 U			2 U			2 U			2 U			2 U		
4-Dichlorobenzene	2 U			2 U			2 U			0.9 L J G			2 U		

cf-Validity Refer to Data Qualifiers in Table 1B.

See-Comments Refer to the Corresponding Section in the Narrative for each letter.

RQL-Contract Required Quantitation Limit

A-Not Applicable, NA-Not Analyzed

D1, D2, etc.-Field Duplicate Pairs

FD-Field Blank, ED-Equipment Blank

TB-Trip Blank, BG-Background Sample

D-Dilution

ANALYTICAL RESULTS

Table 1A

Case No. 25488 (1)

Site: Price Pfister

Laboratory: Region 9, Richmond

Reviewer: Dawn Richmond, USEPA/QAP

Date: September 02, 1997

Page 5 of 5

Analysis
MatrixGDMS VOAS
Low Level Soil

Concentration in µg/Kg

Sample ID	Method Blank VBLK3			Val	Com	Method Blank VBLK4			Val	Com	CRQL			Val	Com	Result	Val	Com
	Result	U				Result	U				Result	U						
Analyte																		
Chloromethane	2	U				2	U				2							
Vinyl Chloride	2	U				2	U				2							
Dichlorodifluoromethane	2	U				2	U				2							
Methylene chloride	2	U				2	U				2							
1,1-Dichloroethene	2	U				2	U				2							
cis-1,2-Dichloroethene	2	U				2	U				2							
Chloroform	2	U				2	U				2							
1,3-Dichloropropane	2	U				2	U				2							
1,2-Dibromo-3-chloropropane	2	U				2	U				2							
1,1,1-Trichloroethane	2	U				2	U				2							
Bromodichloromethane	2	U				2	U				2							
cis-1,3-Dichloropropene	2	U				2	U				2							
Dibromochloromethane	2	U				2	U				2							
Benzene	2	U				2	U				2							
Bromoform	2	U				2	U				2							
1,1,2,2-Tetrachloroethane	2	U				2	U				2							
Chlorobenzene	2	U				2	U				2							
Styrene	2	U				2	U				2							
Xylene (para & meta)	2	U				2	U				2							
1,4-Dichlorobenzene	2	U				2	U				2							

Val-Validity Refer to Data Qualifiers in Table 1B.

Com-Comments Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantization Limit

NA-Not Applicable, NA-Not Analyzed

D1, D2, etc -Field Duplicate Pair

FB-Field Blank, EB-Equipment Blank

TB-Trip Blank, BG-Background Sample

D-Dilution

TABLE 1B
DATA QUALIFIERS

The definitions of the following qualifiers are prepared according to the EPA draft document, "National Functional Guidelines for Organic Data Review," February 1994.

NO QUALIFIERS indicate that the data are acceptable both qualitatively and quantitatively.

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

September 16, 1997

MEMORANDUM

SUBJECT: Review of Analytical Data

FROM: Dawn Richmond, Chemist *Dawn Richmond*
Quality Assurance Program (QAP), PMD-3

THROUGH: Vance S. Fong, P.E., Manager *Vance S. Fong*
Quality Assurance Program (QAP), PMD-3

TO: Rachel Loftin, Remedial Project Manager
States Planning and Assessment Office, SFD-5

9-18-97 *cc: [signature]*

Attached are comments resulting from QAP Region IX review of the following analytical data:

SITE:	D&M Steel
EPA SSI NO.:	ZZ
CERCLIS ID NO.:	CA0001368182
CASE/SAS NO.:	25487
SDG NO.:	2
LABORATORY:	Region IX
ANALYSIS:	FASP Volatiles
SAMPLE NO.:	04 Water Samples (see Case Summary)
COLLECTION DATE:	June 02, 1997
REVIEWER:	Dawn Richmond QAP, PMD-3/USEPA

If there are any questions, please contact me at (415) 744-1494.

Attachment

cc: Brenda Bettencourt, PMD-3

Printed on Recycled Paper

Data Validation Report

Case No.: 25487
Site: D&M Steel
Laboratory: Region IX
Reviewer: Dawn Richmond, QAP, PMD-3/USEPA
Date: September 16, 1997

I. Case Summary

SAMPLE INFORMATION:

VOA Sample Numbers: YY270, YY271, Y7272, and YY273
Concentration and Matrix: Low Level Water
Analysis: FASP Volatiles
SOW: 3/90 (July 1993 revision)
Collection Date: June 02, 1997
Sample Receipt Date: June 02, 1997
Extraction Date: N/A
Analysis Date: June 07, 1997

FIELD QC:

Trip Blanks (TB): None
Field Blanks (FB): None
Equipment Blanks (EB): YY272 and YY273
Background Samples (BG): None
Field Duplicates (D1): YY270 and YY271

METHOD BLANKS AND ASSOCIATED SAMPLES:

VBLK01: YY270, YY271, Y7272, YY273, LCS01, YY270MS,
and YY270MSD
VBLK02: YY270DL, YY270DL2, YY271DL, Y7271DL2,
YY272RA, YY273RA, and LCS02

TABLES:

1A: Analytical Results with Qualifications
1B: Data Qualifiers

TPO ACTION:

SAMPLING ISSUES: None.

OTHER: None.

TPO ATTENTION:

SAMPLING ISSUES: Sample YY273 was received by the laboratory with air bubbles in all vials. The results and quantitation limits for that sample are considered quantitatively questionable. Where the results are nondetected, false negatives may exist. Sample YY273 is an equipment blank, therefore the qualification of all of the compounds in this blank should be considered when applying it to associated samples. Additionally, carbon disulfide was present in equipment blank YY273 and methylene chloride was present in equipment blank YY272. All samples were nondetect for those compounds. Therefore no qualification was necessary for carbon disulfide or methylene chloride.

OTHER: None.

ADDITIONAL COMMENTS:

The analytical results with qualifications are listed in Table 1A. This report was prepared in accordance with EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", February 1994.

II. Validation Summary

	VOA	Acceptable/Comment
HOLDING TIMES	[YES]	[]
GC/MS TUNE/GC PERFORMANCE	[YES]	[G]
CALIBRATIONS	[YES]	[D]
FIELD QC	[YES]	[A,B,C]
LABORATORY BLANKS	[YES]	[C]
SURROGATES	[YES]	[E]
MATRIX SPIKE/DUPLICATES	[YES]	[F]
INTERNAL STANDARDS	[YES]	[]
COMPOUND IDENTIFICATION	[YES]	[B]
COMPOUND QUANTITATION	[YES]	[A H]
SYSTEM PERFORMANCE	[YES]	[]

III. Introduction

Four (04) low level water samples from the D&M Steel site were submitted to the EPA FASP laboratory for FASP volatile organic analyses on June 02, 1997.

IV. Validity and Comments

- A) The values and quantitation limits for the following analytes are estimated (J,UJ) (see Table 1A):

- All analytes in sample YY273.

Sample YY273 was received by the laboratory with air bubbles in all vials. The results and quantitation limits for that sample are considered quantitatively questionable. Where the results are nondetected, false negatives may exist. Sample YY273 is an equipment blank, therefore the qualification of all of the compounds in this blank should be considered when applying it to associated samples.

- B) Sample YY272 was analyzed following YY271 which had exceeded calibration range for Tetrachloroethene (PCE). In the opinion of the reviewer, the result of PCE in sample YY272 is carryover from sample YY271. The result for PCE in sample YY272 is qualified as nondetected and estimated (UJ) and the quantitation limits have been increased accordingly. Sample YY272 is an equipment blank, therefore the qualification of PCE in this blank should be considered when applying it to associated samples.
- C) A laboratory method blank is laboratory reagent water consisting of all reagents, surrogates and internal standards carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

Method blank VBLK02 had 0.31 ppb, 0.71 ppb, and 1.22 ppb of 1,1-Dichloroethene, 1,1,1-Trichloroethane, and Tetrachloroethene, respectively. Values below 0.5 ppb were not reported, by the laboratory. However the blank qualification rules below would still apply. All associated samples were nondetected or more than five times the amount of contamination in the blank for those compounds. Therefore, no qualification is required. Please note comments A and B above for more clarification. Additionally, various ketones were found in all blanks. They were not reported as target compounds in the samples. Therefore no qualification is required. It should also be noted that 1-Propanol was found as a tentatively identified compound in all blanks. This would imply that it is contamination in the analytical process.

An equipment blank is reagent water that has been collected as a sample using decontaminated sampling equipment. The intent of an equipment blank is to monitor for contamination introduced by the sampling activity, although any laboratory introduced contamination will also be present.

Equipment blank YY272 had 1.0 ppb of Methylene Chloride. Equipment blank YY273 had 0.7 ppb of Carbon disulfide. All associated samples were nondetected for those compounds. Therefore no qualification is required. Additionally, various ketones were found in all blanks. They were not reported as target compounds in the samples. Therefore no qualification is required. It should also be noted that 1-Propanol was found as a tentatively identified compound in all blanks. This would imply that it is contamination in the analytical process.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for the common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result (J,U). If the sample result is less than the CRQL, the result is reported as nondetected (J,U) at the CRQL.

- D) Due to low Relative Response Factors (RRFs) in the Initial and Continuing Calibrations, the quantitation limits for the following analytes are estimated (J,UJ) (see Table 1A):
- 1,2-dibromo-3-chloropropane in all samples, spikes, and method blanks.

The RRF evaluates instrument sensitivity and is used in the quantitation of the target analytes.

Average RRFs below 0.05 were observed for 1,2-Dibromo-3-chloropropane in the Initial Calibrations (ICALs) and Continuing Calibrations (CCALs) performed for all SDG analysis dates. These values are below the 0.05 QC advisory validation criterion specified in the Functional Guidelines. Since the results for these analytes are nondetected, false negatives may exist.

- E) Due to surrogate recovery outside method QC limits, the detected results and quantitation limits for the following analytes are estimated (J) (see Table 1A):

- 1,1-Dichloroethene in samples YY270DL, YY270DL2, YY271DL.
- 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, Tetrachloroethene, 1,1,2,2-Tetrachloroethane, Toluene, Chlorobenzene, Ethylbenzene, Styrene, Xylene (ortho-), Xylene (meta- & para-), 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, and 1,2-Dichlorobenzene in all samples laboratory control samples, matrix spikes, and method blanks.

Surrogates are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

All samples are spiked with surrogate compounds prior to purging. Surrogates provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

Recoveries that ranged from 65% to 83% were reported for the surrogate Toluene-d₈ in the above samples. Recoveries that ranged from 40% to 78% were reported for the surrogate 4-Bromofluorobenzene in the above samples. Recoveries that ranged from 119% to 126% were reported for the surrogate 1,2-Dichloroethane-d₂ in the above samples. The QC advisory validation criterion for Toluene-d₈ recovery is 88% - 110%. The QC advisory validation criterion for 4-Bromofluorobenzene recovery is 86% - 115%. The QC advisory validation criterion for 1,2-Dichloroethane-d₂ recovery is 76% - 114%.

- F) The analysis of Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples are suggested for each SDG. The MSD sample was below the required control limit for the recovery of 1,1-Dichloroethene (40%). The sample that was spiked, YY270, had 1,1-Dichloroethene in the sample prior to spiking. Additionally, the relative percent differences between the recoveries of 1,1-Dichloroethene (581%) in the MS and MSD and Toluene (17%) in the MS and MSD were out of criteria. No qualification flag is used for low concentration water MS/MSD data alone. Laboratory control samples (LCSSs), surrogates and internal standards should be validated before qualifying the data. No LCS data is available, the surrogate recoveries were out of range in many samples, and the internal standard recoveries were within range. The effect on the data is not known. The MS/MSD data should be noted.
- G) The standard operating procedures for this method require that Bromofluorobenzene (BFB) is analyzed every twelve hours to insure the instrument performance. It should be noted that the samples YY273RA, YY270DL2, and YY271DL2 were analyzed outside of the twelve hour period. The effect on the data is not known.
- H) The following results are estimated and flagged "J" in Table 1A:
- All results below the Contract Required Quantitation Limits (denoted with an "L" qualifier)

Results below the Contract Required Quantitation Limits (CRQL) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

ANALYTICAL RESULTS

Table 1A

Case No. 25487 (2)

Site: D&M Steel

Laboratory: Region 9, Richmond (FASP)

Reviewer: Dawn Richmond, USEPA/QAP

Date: September 16, 1997

Page 1 of 2

Analysis:

GCMS VOAS

Matrix:

Low Level Water

Concentration in µg/L

Station Location	GW 3			GW 4			GW 2			GW 1			Method Blank		
Sample ID	YY276 D1			YY271 D1			YY272 EB			YY273 EB			VBLK01		
Date of Collection	06/02/97			06/02/97			06/02/97			06/02/97					
Analyte	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chloromethane	1 U			1 U			1 U			1 U	J	A	1 U		
Vinyl Chloride	1 U			1 U			1 U			1 U	J	A	1 U		
Dichlorodifluoromethane	1 U			1 U			1 U			1 U	J	A	1 U		
Methylene chloride	1 U			1 U			1 U			1 U	J	A	1 U		
1,1-Dichloroethene	39 J E			46 J E			1 U			1 U	J	A	1 U		
cis-1,2-Dichloroethene	2 J E			2 J E			1 U			1 U	J	A	1 U		
Chloroform	2 J E			3 J E			1 U			1 U	J	A	1 U		
1,3-Dichloropropane	1 U			1 U			1 U			1 U	J	A	1 U		
1,2-Dibromo-3-chloropropane	1 U J DE			1 U J DE			1 U J DE			1 U J DE			1 U J DE		
1,1,1-Trichloroethane	250 J E			280 J E			1 U J E			1 U J E			1 U J E		
Bromodichloromethane	1 J E			1 J E			1 U J E			1 U J E			1 U J E		
cis-1,3-Dichloropropene	1 U J E			1 U J E			1 U J E			1 U J E			1 U J E		
Dibromochloromethane	1 J E			0.9 L J EH			1 U J E			1 U J E			1 U J E		
Benzene	1 U J E			1 U J E			1 U J E			1 U J E			1 U J E		
Bromoform	1 U J E			1 U J E			1 U J E			1 U J E			1 U J E		
1,1,2,2-Tetrachloroethane	1 U J E			1 U J E			1 U J E			1 U J E			1 U J E		
Chlorobenzene	1 U J E			1 U J E			1 U J E			1 U J E			1 U J E		
Styrene	1 U J E			1 U J E			1 U J E			1 U J E			1 U J E		
Xylene (-para & -meta)	2 U J E			2 U J E			2 U J E			2 U J E			2 U J E		
1,4-Dichlorobenzene	1 U J E			1 U J E			1 U J E			1 U J E			1 U J E		

Val-Validity Refer to Data Qualifiers in Table 1B.

Com-Comments Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limit

NA-Not Applicable, NA-Not Analyzed

D1, D2, etc.-Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank

TB-Trip Blank, BG-Background Sample

D-Dilution

ANALYTICAL RESULTS

Table 1A

Case No. 25487 (2)

Site: D&M Steel

Laboratory: Region 9, Richmond (FASP)

Reviewer: Dawn Richmond, USEPA/QAP

Date: September 16, 1997

Page 2 of 2

Analysis:

GCMS VOAS

Matrix:

Low Level Water

Concentration in µg/L

Sample ID.	Method Blank VBLK02				CRQL															
Analyte	Result		Val	Com	Result		Val	Com	Result		Val	Com	Result		Val	Com	Result		Val	Com
Chloromethane	1	U			1															
Vinyl Chloride	1	U			1															
Dichlorodifluoromethane	1	U			1															
Methylene chloride	1	U			1															
1,1-Dichloroethene	1	U			1															
cis-1,2-Dichloroethene	1	U			1															
Chloroform	1	U			1															
1,3-Dichloropropane	1	U			1															
1,2-Dibromo-3-chloropropane	1	U	J	DE	1															
1,1,1-Trichloroethane	0.7	L	J	EH	1															
Bromodichloromethane	1	U	J	E	1															
cis-1,3-Dichloropropene	1	U	J	E	1															
Dibromochloromethane	1	U	J	E	1															
Benzene	1	U	J	E	1															
Bromoform	1	U	J	E	1															
1,1,2,2-Tetrachloroethane	1	U	J	E	1															
Chlorobenzene	1	U	J	E	1															
Styrene	1	U	J	E	1															
Xylene (-para & -meta)	2	U	J	E	1															
1,4-Dichlorobenzene	1	U	J	E	1															

Val-Validity Refer to Data Qualifiers in Table 1B.

Com-Comments Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantization Limit

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank

TB-Trip Blank, BG-Background Sample

D-Dilution

**TABLE 1B
DATA QUALIFIERS**

The definitions of the following qualifiers are prepared according to the EPA draft document, "National Functional Guidelines for Organic Data Review," February 1994.

NO QUALIFIERS indicate that the data are acceptable both qualitatively and quantitatively.

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Date: 2/10/97

MEMORANDUM

SUBJECT: Reviewing and Reporting of Tentatively Identified Compounds (TICs) from GC/MS Analyses in Data Validation Reports

FROM: Mathew C. Plate, Chemist *Mathew C. Plate*
QA Program, PMD-3

THROUGH: Vance S. Fong, P.E., Chief *Vance S. Fong*
QA Program, PMD-3

TO: Region IX Data Users

The QA Program reports tentatively identified compounds (TICs), from GC/MS analyses conducted by a non-contract lab program (non-CLP) lab, by annotating copies of TIC reporting forms, for the undiluted analysis of each sample. The forms are evaluated for spurious or mis-identified data and then attached to their respective GC/MS data validation report.

TICs are compounds detected, with a response of 10% or greater than that of the nearest internal standard, not included in the calibration mix. TICs are identified solely by comparison of their unique mass spectra to a spectral library. TIC concentration estimates are associated with a high degree of uncertainty (sometimes varying from the actual concentration by an order of magnitude or more).

TIC data provides the data user with additional information on compounds possibly present in addition to target analytes. In some instances compounds initially reported as TICs are added to the analytes of interest for a particular site, and are specifically analyzed for in subsequent analysis events.

Due to the subjectiveness of TIC identifications, for assistance please contact me at (415) 744-1493 or Dawn Richmond at (415) 744-1494.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: US EPA REGION9

Contract: ESAT

YY270

Lab Code: REGION9 Case No.: 25487

SAS No.:

SDG No.: 2

Matrix: (soil/water) WATER

Lab Sample ID: GW-3

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: PP060702

Level: (low/med) LOW

Date Received: 06/02/97

% Moisture: not dec.

Date Analyzed: 06/07/97

GC Column: HP-624 ID: 0.200 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.58	57	J

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

YY271

Lab Name: US EPA REGION9

Contract: ESAT

Lab Code: REGION9 Case No.: 25487

SAS No.:

SDG No.: 2

Matrix: (soil/water) WATER

Lab Sample ID: GW-4

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: PP060703

Level: (low/med) LOW

Date Received: 06/02/97

% Moisture: not dec.

Date Analyzed: 06/07/97

GC Column: HP-624 ID: 0.200 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.59	62	J

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

YY272

Lab Name: US EPA REGION9

Contract: ESAT

Lab Code: REGION9 Case No.: 25487

SAS No.:

SDG No.: 2

Matrix: (soil/water) WATER

Lab Sample ID: GW-2

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: PP060704

Level: (low/med) LOW

Date Received: 06/02/97

% Moisture: not dec.

Date Analyzed: 06/07/97

GC Column: HP-624 ID: 0.200 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.89	32	JN

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

YY272RA

Lab Name: US EPA REGION9

Contract: ESAT

Lab Code: REGION9 Case No.: 25487

SAS No.:

SDG No.: 2

Matrix: (soil/water) WATER

Lab Sample ID: GW-2RA

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: PP060713

Level: (low/med) LOW

Date Received: 06/02/97

% Moisture: not dec.

Date Analyzed: 06/07/97

GC Column: HP-624 ID: 0.200 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.89	36	JN

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

YY273

Lab Name: US EPA REGION9

Contract: ESAT

Lab Code: REGION9 Case No.: 25487

SAS No.:

SDG No.: 2

Matrix: (soil/water) WATER

Lab Sample ID: GW-1

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: PP060705

Level: (low/med) LOW

Date Received: 06/02/97

* Moisture: not dec.

Date Analyzed: 06/07/97

GC Column: HP-624 ID: 0.200 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: US EPA REGION9

Contract: ESAT

YY273RA

Lab Code: REGION9 Case No.: 25487

SAS No.:

SDG No.: 2

Matrix: (soil/water) WATER

Lab Sample ID: GW-1RA

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: PP060714

Level: (low/med) LOW

Date Received: 06/02/97

% Moisture: not dec.

Date Analyzed: 06/07/97

GC Column: HP-624 ID: 0.200 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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APPENDIX H

CONCEPTUAL SITE MODEL

CONCEPTUAL SITE MODEL DIAGRAM (USEPA 1988b)

